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"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

VOL. CLXXIII SEPTEMBER 12, 1947 No. 5456

LICENCES TO BUILD

A FURTHER curtailment of the number of licences to build is the expected outcome of the economic crisis. To some extent it reflects a belated recognition of the inflationary tendency which threatens the country and shows itself in a rise in prices from which the building trade is not immune. There is, of course, a further reaction upon building in the intention to direct its activities where they will best influence the export drive, and to those industries which will produce goods which will save dollar expenditure.

There can be little argument against the need for some control towards these ends, and if control is reasonably and effectively exercised, good will result. But two years of peace-time control do not encourage us to expect either reasonableness or effectiveness, and the probability is that much of the energy put into the direction of affairs by the bureaucrats will be dissipated in conflicting and self-hampering orders. We shall have enough to suffer before we are through our difficulties without any further aggravation which can be avoided.

One of the first needs is for the public and their professional advisers to know just what they may do in the immediate and not distant future. It has been made fairly clear that rehousing, for the time being, will be concentrated upon schemes already started, and that privately built new houses will no longer be licensed, new schemes being reserved first for the miner and the agricultural labourer. While it is a fact that no society can long hold together unless all classes receive reasonable consideration, it may well be that this situation is forced upon us, and may stand for good policy for a strictly limited period.

The main point about the situation is the uncertainty of those people who are able and willing to build houses for themselves. Quite a number of them have already housed themselves without subsidy or cost to the community, and thereby have materially eased the housing shortage. Numbers still remain willing and anxious to follow that course. On the face of it, it would appear that these, having no chance of licences, need do nothing but await a more favourable turn of events. But it is certain that, sooner or later, there must be a return to the issue of private licences, and it would appear that when that time comes, and given equality of need, it will be a question of "first come, first served," with applicants dealt with in the rotation of the lists made as they come in. The person in this position thus needs to think very carefully before deciding to do nothing about it.

If it is a fact that matters will be dealt with in this way, then it is obvious that such a person must get busy and employ an architect to prepare plans and lodge an application for a licence to build with as little delay as possible, so as to maintain his place in the queue.

If this process is not too much elaborated it will not be a very serious matter, and the cost of such services would represent one preliminary in the process of building carried out in advance. This would consist in the preparation of eighth-scale plans sufficiently advanced to submit to a Council, and an application based on a close approximate estimate of cost. Some local authorities deal with applications of such a nature and either issue or defer the issue of licences according to the position at the moment. Others imagine their responsibilities go further, and are unwilling even to consider applications unless they are accompanied by a firm tender from a builder and the employer's provisional acceptance thereof.

To bring a proposal up to this stage is a considerable operation, involving working drawings and specification sufficiently comprehensive to form the basis of a tender, the duplication of the documents, and their issue on a competitive basis. This is no minor service, but one which qualifies for two-thirds of the scale fees of an architect. If it were certain that the work would ultimately proceed within a reasonable period, and that this again was no more than a non-recurring part of the employer's ultimate commitments, no harm would be done beyond the locking up of so much money for a term. But the applicant has no assurance that either of these two things will happen. Building may not be possible for six or seven years, for all he knows, and within that time his needs may change, or he may have the good fortune to secure ready-built accommodation within that time. The project might then be abandoned or so much altered as to render the documents inapplicable. The fees that he has paid will then have been paid to no useful purpose.

Or again, a project at the present time is designed and specified with an eye to the current availability of materials. At the moment the shortage is timber, with lesser shortages of steel and cement arising out of fuel cuts. In six months' time who can say whether on the one hand some favourable deals in timber within the soft currency areas may not have been made to ease the timber shortage, or, on the other hand, that an expanded industrial programme, together with fuel economies in the interests of the export market, may not create greater shortages of steel and cement? In such a situation the architect would design and specify in quite a new way, and the original documents might well lose their usefulness on this account alone. In any case, no tender made now would stand good in six months' time, and many builders willing and able to build now are likely to be otherwise engaged in six months' time or more. Here, again, would be more arduous work for the architect, for which he could rightly claim payment.

These uncertainties add unnecessarily to the cares and worries which beset the citizen, and so far as we can judge they can be partially removed, at any rate, by the issue of clear information and instruction *now*.

We would suggest that the following questions should be answered as clearly and as quickly as possible so that unnecessary expense and wasted labour should not be expended in the meantime.

(1) Is the suspension of licences to build private houses to be for a limited period, and if so, for how long?

(2) Will applicants for licences be dealt with in rotation when their issue is resumed, and after special priority cases have been dealt with?

(3) Are local authorities to be instructed to deal with such applications on the basis of a close approximate estimate of cost, without the provision of a firm tender and provisional acceptance?

NOTES AND NEWS

Art at the British Museum.

THE BRITISH MUSEUM, not usually to be associated with art shows in the popular sense of the word, has reopened its Print Room, and with a fine gesture has put on show a quite magnificent collection of prints and drawings from the European schools, together with about a hundred Indian paintings. An important place in the exhibition is given to the work of the English school, which is chiefly represented by the earlier water-colourists; there are, however, eighteen of Turner's pictures, giving a very comprehensive view of his art, and including his "Petworth House" drawings. There are also some very fine specimens of the work of Paul Sandby (a late eighteenth-century painter with a fine architectural sense), J. R. Cozens, Towne, Blake, and Cotman, and, not least, six pictures by Girtin, a brilliant water-colour artist, who, although he lived only until the early age of twenty-seven, perhaps reached as high a standard in his art as any other English water-colourist. His painting of Kirkstall Abbey is masterly.

The Italians are there in force—Leonardo da Vinci, Raphael, Michelangelo, and, particularly for our interest, Canaletto, Piranesi, and Giuseppe da Bibiena. The Canaletto, a sepia line and wash drawing, "The Doge Giving Thanks for his Election," shows the master's fine grasp of architectural detail, and Bibiena's "Design for Theatre Scenery" shows the art of this baroque artist in all its magnificence.

The feast goes on, the Dutch and Flemish masters, Roger van der Weydan, van Orley, and then van Dyck, Rubens (a superb pen-draughtsman) and Rembrandt; and the French and German schools. In complete contrast comes the work of the Indian school. The collection, numbering about 100, is equally divided between the Mogul and the Hindu schools. In all this work the deepest sense of decorative design can be clearly seen, the unerring sense of colour and juxtaposition of form—in its manner so in keeping with the prevailing outlook of to-day—renders this collection especially impressive. Some of the sixteenth-century work shows an almost incredible mastery.

Architects will enjoy this exhibition, from the fine sweep of the Girtins, the jocularity of the Rowlandsons (with architecture by Pugin!) and on to the Italian and Flemish masters. In these days of transition more thought and encouragement could well be given to the painting of the architectural scene. A high standard of draughtsmanship has always been the reflection of a high standard of architecture. It is for our schools to recreate this high standard; it will benefit the new architecture in every facet of its development.

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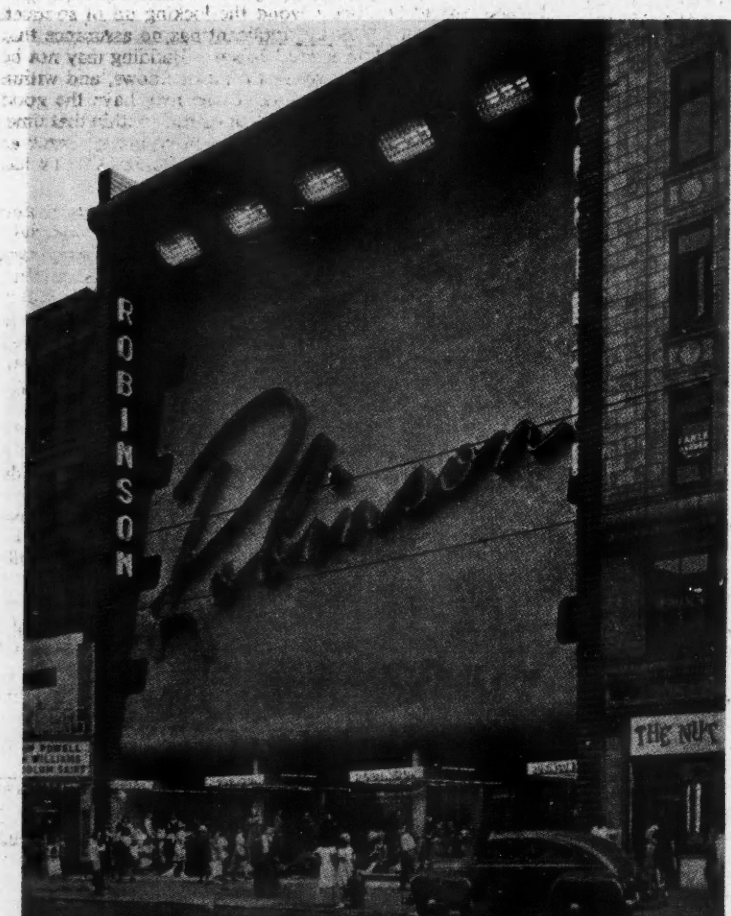


A DRESS SHOP, MARKET-STREET, PHILADELPHIA. GRUEN & KRUMMECK, DESIGNERS. (See Note.)

Buildings and Advertisement.

THOSE who deplore the intrusion of advertising into commercial architecture most generally do so because the architecture is most often designed first and the advertising after. The average cinema building of the 1920-1930 vintage is perhaps the outstanding type of building which has suffered from this lack of coherence in design. Whatever the architectural purist may say, it is a virtual necessity in commercial building for the name and/or the product being sold to find a part in the design, and it is now accepted that an important part of the architect's problem is to achieve this in a manner which meets both the storekeeper's desires and public amenity. The dress shop in Philadelphia (reproduced from *The Architectural Forum*) shows a solution which has interest, though we do not suggest it should be imitated here! It is achieved, of course, only by the availability of fluorescent lighting, which has enabled the interior to be lit while permitting the whole façade above ground-floor level to be converted into an enormous signboard, slanting inwards from bottom to top. The side walls, left projecting, form the background for vertical signs seen by those approaching from either side of the street, and a canopy at the top with built-in coloured lights illuminates all three sign areas. The designers were Gruen and Krummeck, Michael Auer and R. L. Baumfield being associates.

Employee Education and Training.

BELIEVING that employee education and training has a vital part to play in the present campaign to secure increased output, not only through improved skill but (and this for the majority) through encouragement of increased interest and co-operation on the job, the British Association for Commercial and Industrial Education, 107, Baker-street, London, W.1, has organised a week-end conference on "Co-operation Through Education." This will be held at Ashridge, Berkhamsted, Hertfordshire, from October 3-6. Speakers will include Sir Charles Tennyson, Sir George Schuster, Mr. Harold Clay and Lieut.-General Sir Ronald Weeks.

Employers, industrial education and training officers and representatives of schools or local education authorities concerned with the further education of young workers, will be welcomed. There is a conference fee of three guineas, inclusive.

South Africa Bound.

MAJOR JOHN G. MARTIN, M.B.E., Hon.A.T.P.I., who served as General Secretary of the National Housing and

Town Planning Council for over 21 years, left this country by air on Sunday, September 7, for Cape Town.

Before his departure, Alderman C. R. Gill, M.B.E., J.P., Chairman of the National Housing and Town Planning Council, presented Major Martin with a silver tray inscribed "Presented to Major John G. Martin, M.B.E., General Secretary, National Housing and Town Planning Council, 1926-1947, in appreciation of his outstanding services," as a token of the esteem of the general committee and staff.

Sir Frank Elgood, C.B.E., F.R.I.B.A., said Major Martin had shown his ability in leading deputations to the Ministry of Health in the early days of the Wheatley and Chamberlain Acts, and had an encyclopædic knowledge of housing and planning matters.

Finnish Architect's Visit.

MR. J. V. A. CEDERCREUTZ, a Finnish architect, and assistant to the Professor of Town Planning at the Technical Academy in Helsinki, has arrived in Britain for a two weeks' stay under British Council auspices.

He is visiting Stratford-on-Avon, Bath, Oxford and London to study modern British trends in the design of theatres, schools and office buildings. Mr. Cedercreutz was responsible for the erection of the recent Finnish exhibition in Copenhagen, and has been the architect of a number of important buildings in Finland.

The late W. G. Ingram, F.R.I.B.A.

WE regret to record the death of Mr. William George Ingram, F.R.I.B.A., of Hookstone-road, Harrogate. Mr. Ingram, who died last week in a Harrogate Nursing home, was a member of the firm of William G. Ingram, Son and Archer, of Verulam-buildings, Gray's Inn, W.C.1, and was elected a Fellow of the Royal Institute in 1925.

Care of Old People: Advisory Council.

AT the first meeting of the governors of the National Corporation for the Care of Old People it was decided to appoint an expert advisory council to make recommendations on the policy and activities of the corporation and to examine all applications for grant-aid. Mr. Geoffrey Gibbs (vice-chairman of the corporation) will be the chairman, and Mr. L. Farrer-Brown the vice-chairman of this council. The following have agreed to serve, in their personal capacities, as members of the advisory council, of which Mr. Allendale Sanderson is secretary: Mr. H. Fieldhouse, Mr. D. H. W. Hall, Mr. A. W. Hersee, Alderman Mrs. A. V. Hill, Mr. Howell James, Sir Geoffrey King, Mr. F. Messer, M.P., Sir Ernest Rock Carling, and Miss E. L. Younghusband.

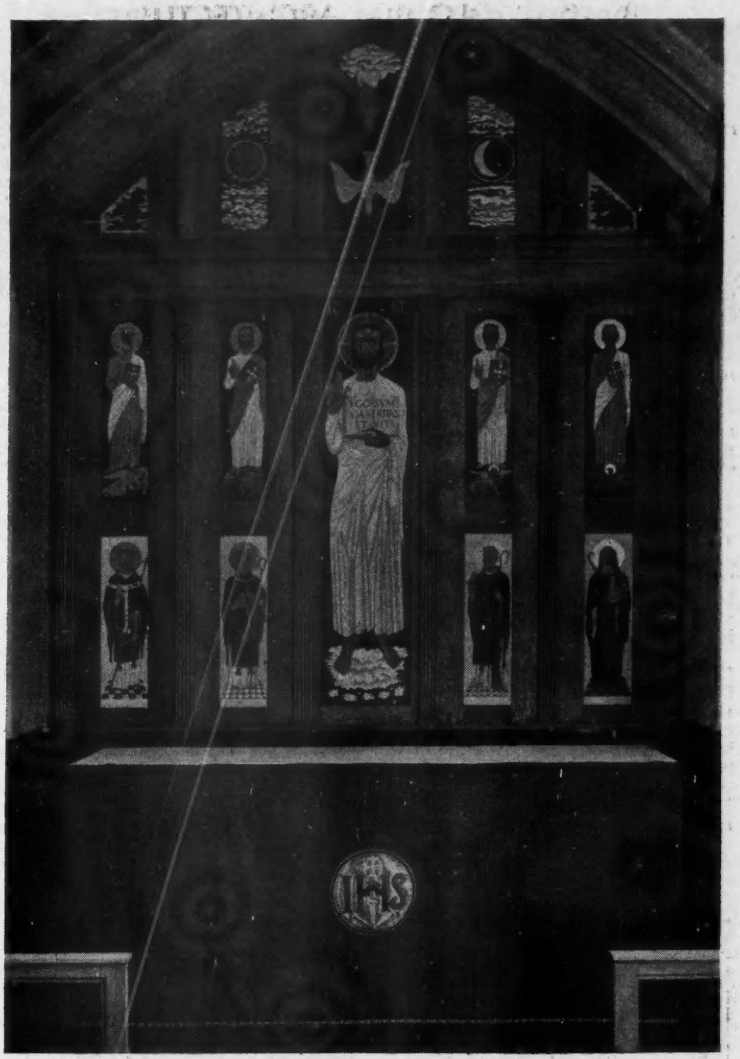
Professional Announcements.

MESSRS. PITE, SON AND FAIRWEATHER, chartered architects, of 6, Queen Anne's-gate, Westminster, have taken into partnership MR. W. N. B. GEORGE, B.Arch, A.R.I.B.A., A.M.T.P.I., as from September 1, 1947.

MESSRS. H. S. HAUGHTON AND PARTNERS, quantity surveyors, of Plymouth and Exeter, have established a third West of England office at Old Bank-chambers, 36, Corn-street, Bristol, 1 (telephone: 26475), at which address they will be pleased to receive trade catalogues.

MESSRS. TODD AND LEDSON, A/A.R.I.C.S., chartered quantity surveyors, announce that they have now removed from 13, Rumford-st., Liverpool, to The Temple, 24, Dale-street, Liverpool 2.

MR. CHARLES E. ROBERTS, A.I.Q.S., consulting building and quantity surveyor, 24, Willcott-road, London, W.3 (telephone: Acorn 2019), desires it to be known that as and from September 30, 1947, he will resign his position as Chief Surveyor to the West London Property Corporation, Ltd., and The Berkeley Property and Investment Co., Ltd., situate at 280, Earls Court-road, S.W.5, and 15, Moorgate, E.C.2. All future communications should be sent to 24, Willcott-road, London, W.3, and he will be pleased to receive up-to-date catalogues and technical publications.



ROBY CHURCH, LANCS. SIDE CHAPEL ALTAR. Designed by Mr. Bernard A. Miller, B.Arch., F.R.I.B.A., this altar was completed in August, 1947, and is a work of collaboration. The panels were painted by Messrs. W. H. Stevenson, O.B.E., A.R.C.A., and N. Martin Bell, A.R.C.A., of the Liverpool School of Art. The frontal was made by Miss Grace Best. The frame is oak, the panels being painted in gesso on mahogany boards. The frontal is of light blue woven fabric, with symbols in embossed silver thread on cloth of silver. A polychrome scheme in flat refreshing colour has been used, considerable use of shaded white and gilding being employed. The upper figures of the four evangelists are in light apparel on dark ground. The lower figures of two martyrs and two doctors are in dark apparel on light ground. The backgrounds are dark blue.

From *The Builder* of 1847

Saturday, September 11, 1847.

Knowledge is power, wrote the great Lord Bacon. Knowledge is power, complacently exclaimed a dandy the other day when, strong men having failed, he released a lap-dog from the teeth of a huge mastiff by quietly administering to the latter a pinch of snuff. As knowledge even in one department spreads, so will crime be lessened, human suffering prevented, happiness be increased, and existence lengthened. Ignorance in matters sanatory slays its sixty thousand victims a year in the United Kingdom. . . . Cheap and efficient sewerage, suppression of all cesspools, ample supply of water, the widening of alleys, provision of healthful dwellings for the industrious classes, means of carrying off the products of combustion and vitiated air from all apartments, and of obtaining a good supply of pure air, are desiderata of the utmost consequence to all classes of society. Until we remove some of the enormous physical evils which the want of these involves, we cannot hope greatly to improve the morals or refine the tastes of the people.

COMING EVENTS

Monday, September 15.

ASSOCIATION OF PUBLIC LIGHTING ENGINEERS. Annual Meeting and Conference. Cambridge Hall, Southport. 4 p.m. (continuing until September 19).

Wednesday, September 17.

THE INSTITUTE OF WELDING (North London Branch). Joint meeting with London and S.E. Counties Section of the Royal Institute of Chemistry. Mr. W. K. B. Marshall, B.Eng., on "Recent Developments in the Welding of Plant for the Chemical Industry." Manson House, 26, Portland-place, W.1. 7.30 p.m.

BRITISH COLONIAL ARCHITECTURE

4.—INDIA

By MARTIN S. BRIGGS, F.R.I.B.A.

THE question of architectural tradition in India is infinitely more complex and, on the whole, more important than in Canada and South Africa; because, as we know so well nowadays, India has never been a homogeneous nation, and its architectural tradition is as varied as its divergent and hostile political groups or sections have been in the past. Strictly speaking, our rule of India has lasted barely 90 years, from 1858, when Queen Victoria was proclaimed Empress immediately after the Indian Mutiny; but, long before that, the growing settlements of the East India Company, with British Government support, had in fact created an "occupied zone," as one might call it, of certain provinces and districts. Historians differ as to the point at which the English ceased to be mere traders and became rulers of territory, but it may be safely assumed as 1774, when Warren Hastings was appointed Governor-General of India by the British Government; though 18 years earlier the British fleet had come to the relief of the Company after the appalling incident of the "Black Hole of Calcutta."

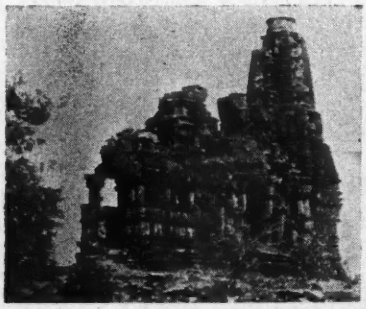
The British East India Company, founded in 1600, was not the first in the field. The Portuguese, who discovered the Cape route in 1487, established a fort or settlement at Goa in 1510 and still hold that town, with a considerable surrounding area. It contains a number of churches and other buildings in typical Portuguese Renaissance and baroque style. So does the decayed Portuguese city and fortress of Bassein (some 30 miles from Bombay), where there is a ruined cathedral and 13 other churches. The Dutch, too, were early settlers, and even the Danes made an attempt. The first British fort or station was established at Surat, north of Bombay, in 1608; and Bombay was ceded by the Portuguese to England in 1644 as part of the dowry of Princess Catherine of Braganza when she married our King Charles II. The site of Madras—six square miles of dreary sand—was purchased in 1640, and Calcutta was founded in 1690. Long before that, Dutch and Portuguese rivalry had been eliminated, but meanwhile the French had arrived at Pondicherry (which is still French) in 1674; and from that date, for a century, French and British were constantly at loggerheads, partly because they both interfered in Indian domestic squabbles. That outline gives a brief explanation of the position in India up to 1774, so far as it concerned England. About half the country was then ruled by the Mahratta Confederation, and the remainder was parcelled out among a host of petty princelings, Muslim and Hindu.

The British were not then sufficiently established, even at their larger stations, to do much important building before the end of the 18th century; but they were surrounded by an enormous number of large, ornate and ancient buildings of many styles and periods—a complete contrast to the position of the early settlers in New England, Canada and Cape Colony. This historical Indian architecture is difficult for us of the West to understand in all its phases, because, for the most part, it seems—and is—entirely alien to our eyes. It appears least exotic in the early buildings of the Muslims, derived from Persia and Egypt, because in that phase there is just a touch of kinship with Roman and Gothic architecture. The oldest examples of all, however, are of great intrinsic interest and should be mentioned, even in this brief article.

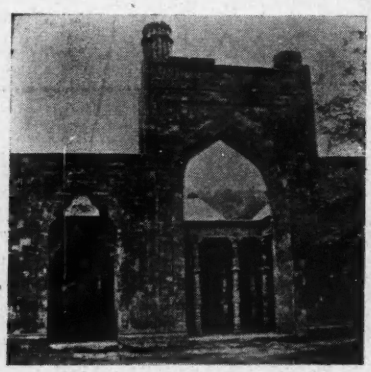
Recent excavations in the Punjab and Sind have revealed a civilisation at least 5,000 or 6,000 years old, which cannot be described here; and lack of space also precludes any discussion of the Greek influences that followed Alexander's famous visit to India in 323 B.C. Shortly after his time, the whole of modern India except the southern tip was ruled by a single emperor, Asoka by name and Buddhist by religion, who erected the remarkable *stupa* (shrine for relics) at Sanchi, illustrated by a fine series of models and drawings in the Victoria and Albert Museum. Its most notable feature in relation to architectural development is the quartette of gigantic gateways of carved stone, which seem to find an echo in later work in the Far East as well as in India. Almost contemporary with this early example are the Buddhist temples carved out of solid rock, at Karli, Nasik and elsewhere, during the 2nd century B.C. They are rather impressive internally, in spite of their clumsy and grotesque detail, and they contain examples of "horse-shoe" arches nearly a thousand years older than those built by the Arabs, although the horse-shoe arch ultimately became one of the distinctive hallmarks of Muslim architecture. Opponents of this theory of a Buddhist origin contend that the use of these arches in ancient India was not structural, that they were employed simply because their shape was considered to be attractive or striking. At all events, they continued to be used in India through all the periods, and still are so used.

Some of the early rock-temples were built for Hindu, more precisely for Jain, worship; but for the sake of clearness I am neglecting all distinctions between the various non-Muslim sects in India (drawn very sharply by Fergusson in his *History of Indian Architecture*), and am describing them all here as "Hindu" up to the time of the Muslim conquest, which may be dated for convenience *c.* A.D. 1200. After that date, the Muslim examples soon became "Indo-Saracenic" as Hindu craftsmanship and tradition mingled with Persian forms, and eventually the splendid "Mughal" or "Mogul" style of the 16th-17th centuries resulted. The temple at Khajuraho illustrated here is one of a group of 30 temples on a site in Northern India, and is believed to have been built *c.* 950; that is, about 1,000 or 1,100 years after the rock-temples just described. In many ways it is typical of Hindu temple architecture, which normally included two elements: a shrine-cell crowned by a curvilinear tower or steeple (*sikhara*), and an entrance porch or veranda. Carved ornament, much of it of a high standard of craftsmanship, covered almost every part of each building so completely that the structural features are hardly visible. This *sikhara* looks strange to us in England, and indeed the carving is far more profuse than anything encountered in Gothic or even in Arab buildings; but the skill displayed by the Hindu craftsmen was freely utilised in later Muslim buildings; and many of their features, as we shall see, were Hindu in character.

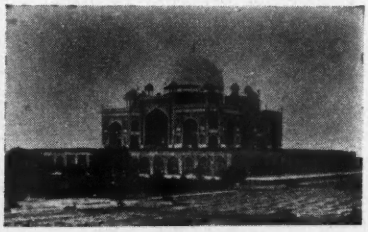
The Muslims first entered India in 712, less than a century after the foundation of Islam in Arabia by Mohammed; but the colony that they then founded in Sind soon expired. When their next in-



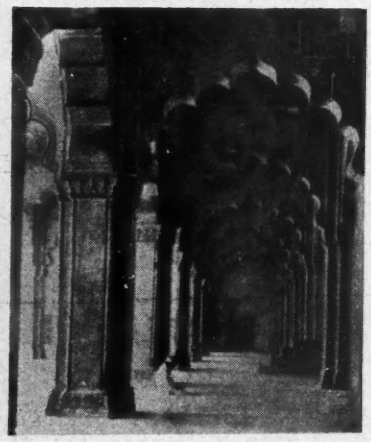
1. Temple at Khajuraho (c. 950)



2. Ajmir: Courtyard of the Great Mosque (c. 1200)



3. Delhi: Tomb of Humayun (c. 1560)



4. Agra: the Pearl Mosque (1653)

5. Agra : the Taj Mahal (1651-53)

6. Calcutta : General Post Office (1864)

vasion took place, at the end of the 10th century, the only buildings of any importance that they erected were in the town of Ghazni, which is in Afghanistan, not in India proper. Very little of Ghazni now remains. The story of Muslim architecture in India really starts with the foundation of Delhi in 1193 by the ruler of Ghazni. As I shall explain in a subsequent article on "The Middle East," the Muslims had then been building mosques for more than five centuries in countries west of India, especially Egypt, North Africa, Mesopotamia and Persia. They also erected many great palaces, tombs and public buildings, but the same style was adopted for all and is best exemplified in their mosques. The Muslim invaders naturally entered India from Persia, and the kind of mosques they first built in India were definitely of Persian type, a type which differs in many respects from their work in Egypt and North Africa. In Persia, where stone is scarce, they built in brick and covered the surfaces with brilliantly coloured glazed tiling. Ordinary pointed arches—which we are too apt to regard as a novel invention of Gothic Europe—were freely used in these countries of the Middle East centuries before England or France introduced them; and horse-shoe arches were also popular. A mosque is simply a Muslim place of worship, like a Christian church, for use for public or congregational worship on Fridays and for private prayer at other times. A large congregational mosque, known in India by its Arabic name of *Jami Masjid* ("Great Mosque"), consists of a spacious open court surrounded by arcades (these arcades being often covered in whole or in part by domes) and furnished with one or more tall minarets from the gallery of which the call to prayer is chanted. Some mosques are entirely roofed in with domes; for domes, as well as elaborate brick vaulting, had been in common use by the Persians for centuries. The Jami Masjid at Ajmir, illustrated here, was built in 1200 or soon afterwards. It has a façade of "Persian" or, as we should say, "Tudor" arches, in stone, and a fine courtyard. The arches contain cusping, an ornamental feature introduced from Persia not only into India, but, later, into our English Gothic architecture.

During the next three centuries, from *c.* 1200 to 1526, Indian architecture developed on two lines simultaneously : (i) purely Hindu, with all the characteristics of the florid early examples; and (ii) "Indo-Saracenic," combining many Persian features introduced by the first Muslims with traditional elements of structure and decoration borrowed from indigenous Hindu buildings and favoured by Hindu craftsmen. Out of this latter fusion arose "Mughal" architecture, the last phase, which endured from 1526 to 1707. During that period, some of the most famous buildings, including the Taj Mahal, were erected. At its greatest extent, in the second half of the 16th century, the Mughal Empire under Akbar covered the whole of modern India north of the latitude of Bombay and included modern Afghanistan and Kashmir.

In 1569, just before Akbar forsook Delhi for a new capital at Fatehpur Sikri (see below), he completed the enormous tomb, illustrated here, of his grandfather Humayun, who died in 1556. The tomb itself is 156 ft. square, and the noble podium beneath it is much larger. Probably it was designed by an architect from Persia or Samarkand, and some critics regard it as the prototype of the Taj Mahal, built 80 years later. The dome is of the late-Persian hollow type, and has Arab finials. The little kiosks are the only Hindu features. The materials are red sandstone and white marble. Speaking at the R.I.B.A. annual dinner last March, Mr. Attlee referred to "the austere simplicity and beauty of Mughal architecture, such as Humayun's Tomb, compared with that terrible riot of over-elaboration which you see in the Hindu temples of Tanjore and Madura."

Akbar was still a young man when he founded his new capital at Fatehpur Sikri, near Agra, and proceeded to erect there

7. Bombay : Municipal Buildings (1893)

one of the finest groups of Muslim buildings in all India. The city itself is now deserted, but its splendid mosques, palaces and official buildings still remain. It included hostels for travellers, schools and all the requirements of an advanced civilisation. The fine palace at Agra was built just before Akbar's time; but, a century afterwards, in 1653, the lovely little "Pearl Mosque" (see illustration) was added to it by Shah Jahan, another emperor. The palace itself is built of red sandstone, with a plentiful use of white marble and coloured inlay.

The Taj Mahal (see illustration) is one of the most celebrated buildings in the world, and is reputed to have cost £4,500,000 in modern (pre-war) currency. It was built by Shah Jahan in 1651-53 in memory of his favourite queen. In spite of much research, the name and nationality of its architect remain unknown. Although a natural growth from the Tomb of Humayun, and to a less extent from certain others, it is far superior to all of them in the dignity of its grouping and disposition, in the masterly contrast between its central dome and the slender minarets (as in the mosques of Cairo), in the chaste refinement and painstaking craftsmanship of its details, and, above all, in the splendour of its materials. The design is far more Persian and less Indian than anything we have encountered hitherto, yet nothing quite like it is to be found in Persia or Egypt or anywhere else. It is essentially a masterpiece of Indian Muslim architecture.

From the time of Shah Jahan's own death in 1658 to the beginning of British rule in 1774, conditions in India were unfavourable to the production of great architecture. The later emperors were constantly at war with the Mahrattas, who eventually captured Delhi; and then came more wars between rival potentates as well as with English and French traders, as we have seen. Delhi was frequently sacked, and lost many of its fine buildings. One authority, Havell, who attributes all that is best in Mughal art to Hindu craftsmen, considers that the rapid decline of Indian architecture during this period is due to the bigotry of the emperor Aurungzeb, who banished Hindu craftsmen from his service; and he also illustrates several buildings designed and erected without European aid during the 18th and 19th centuries, especially in Rajputana, which certainly support his argument that the attempt to impose British architectural fashions upon India was altogether wrong.

The buildings erected by the British

8. Calcutta : the Victoria Memorial (1906-21)

during the first century of their rule sometimes strove to follow the native tradition without very much success, and were often designed by engineers without adequate understanding of architecture. Other buildings, perhaps a majority, followed the European classical revival, no concession being made to local circumstances or tradition or climate. The Town Hall at Bombay (1835), the Town Hall (1813), Government House (1799-1803), St. Andrew's Church (1815) and the General Post Office (1864-68), at Calcutta, are examples. The Gothic Revival produced a number of large public buildings equally divorced from the Indian tradition, *e.g.*, the University Library and Clock Tower (1874) and the High Court (1879), both in Bombay. Murray's *Handbook for India* says of the former that it is "a grand pile designed by Sir Gilbert Scott in the style of 14th-century Gothic," and of the latter that it was "designed by General Fuller, R.E. . . . The style is Early English." The High Court at Calcutta (1864-72) is in Flemish Gothic, and Calcutta Cathedral (1839-47) is in anæmic Perpendicular. The attempt to revive the so-called "Indo-Saracenic" style began before the end of the century, and its progress may be traced through the following sequence of large public buildings in Bombay: Victoria Station (1888), the Municipal Buildings (1893), the Prince of Wales Museum (1905), the Gateway of India (1911), and the General Post Office (1903-9). The last-named building, designed by Mr. John Begg, is the most successful of these, and recalls the 16th- and 17th-century architecture of Bijapur. The Victoria Memorial at Calcutta (1906-21), by Sir William Emerson, is cruelly described by Havell as "an archæological essay on Kedleston Hall and the Radcliffe Library." It is certainly not Indian, but rather defiantly British, or Roman, or "Free Classic," though supposed to have a "Saracenic" flavour.

When the project of building New Delhi was publicly mooted in 1912, there was a great commotion about the architectural style to be adopted. It seems to have originated in a letter to *The Times* of October 3, 1912, from Sir Herbert Baker, who had not then been appointed one of the architects for New Delhi, and was still hard at work on the new Union Buildings at Pretoria, as mentioned in my third article. His letter is so germane to my subject that I quote a large part of it here :—

"The King's decree to build a new capital of India at Delhi brings into prominence the question of the style of architecture to be employed. It is a question of Imperial as well as of artistic importance ; as an event in the history of architecture it may perhaps be compared to the building of Constantinople. . . . The problem of Delhi, however, presents much greater difficulties due to the wide divergence of race and climate which separates East and West in the British Empire, and fusion may well seem as impossible in architecture as in race and national characteristics. The streams of architecture which flowed north and west to England, and those which flowed south and east to Persia and India in Muslim architecture, cannot now be recognised as having sprung, for the most part, from the same fountain in the arts of Rome. Indian architecture would be as hopeless as an exotic if planted in England, as Gothic and the more formal Renaissance of the northern schools have proved in India." He continues that some people favour the elimination of tradition and hold that "the golden age of a new style may be brought about . . . by following, as in engineering, the rational demands of materials and construction. . . . The most popular decision would probably lie in the choice of the best of the Indian styles as the basis for the design of the new city," and would reassure those who "have been shocked by the atrocities" resulting from "unsympathetic attempts to transplant the ideas of Victorian art" to India. However, "the new capital is not merely the shrine of the glory of India, but it is to be the living centre of the administration. First and foremost, it is the spirit of British sovereignty which must be imprisoned in its stone and bronze." . . . "The selection of the site of the capital of the Mughal Empire obviously points, if we have to choose an Indian style, to that of the Muslim or Indo-Saracenic style, of which the best examples are found in the neighbourhood of Delhi."

Baker then describes its chief characteristics, and concludes that "it has not the constructive and geometrical qualities necessary to embody the idea of law and order which has been produced out of chaos by the British Administration. Should we not be guided by a truer and more natural instinct if we fearlessly put the stamp of British sovereignty on the monument of the great work of which the Empire should be so proud? By so doing we should be following the precedent of the Greeks, the Romans and the Saracens themselves."

He dismisses Gothic as an essentially Northern style unsuited for transplantation, and says that we naturally turn to the work of Wren and his followers. "It was the genius of Wren which interpreted the English character, and stamped sanity and sobriety on our architecture. The best buildings of that period have eminently the attributes of law, order and government; to the extent, some might say, of dullness, the defect of those qualities." Discussing whether that style "can be adapted to the needs of a tropical climate," he suggests that classical colonnades, so often a meaningless affectation in England, are "absolutely essential for protection from tropical sun and rain in the plains of India"; in fact, the style should actually "gain in freedom and power of expression by adaptation and expansion to the needs of a more southern climate. . . . But colonnades, arcades, domes and planning in the grand manner are all found in India as well as in Europe of the Late Renaissance. Their utilisation lies ready to the hands of the architectural alchemist, who must avoid the effect of Whitehall on the one hand, and of the White City on the other."

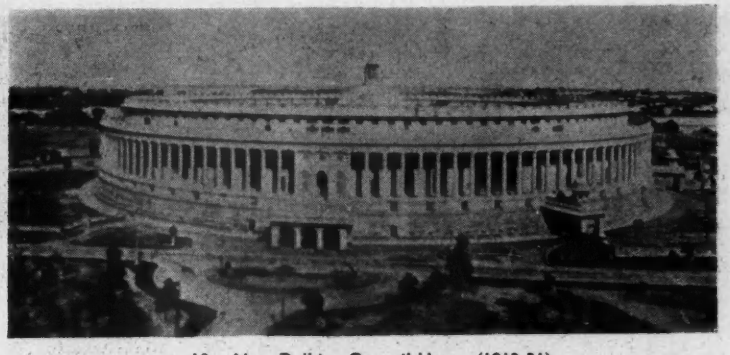
New Delhi, the joint work of Sir Herbert Baker and Sir Edwin Lutyens, was finished in 1931; and its magnificent

9. New Delhi : Secretariat (1913-31)

buildings, designed to express the majesty of the British *Raj*, have just passed into Indian hands. It remains to be seen what India and Pakistan will create in the way of architecture. Will it be Central European *Modernismus*, will it follow the Indo-Saracenic or the Hindu tradition, or will it attempt some sort of compromise? In any case, it seems unlikely that either New Delhi or Sir Gilbert Scott's Gothic will serve as a model for the future.

(To be continued)

NOTE.—Figs. 5, 6, 8 and 9 are from photographs kindly supplied by the Trade Commissioner, Government of India; and the remainder from other official sources.



10. New Delhi : Council House (1913-31)

A THREAT TO THE INDUSTRY

FROM A CORRESPONDENT

THE Federation of British Industries has addressed to the Prime Minister a statement of its view on what should be done to meet the economic crisis. Among other matters, the statement deplores the inflationary effect of present capital expenditure which the F.B.I. considers should be reduced by 450 million pounds per annum. A prima facie case is made out for such reduction. Let us see how the building industry would be affected.

In the Government's White Paper, published last February and known as "The Economic Survey for 1947," the statement is made that : The Government is aiming at a distribution of work on capital equipment and maintenance in 1947 on the following lines :—

	Per cent.	*Per cent.*
Construction.		
Housing	20	
New industrial building ...	6	
Other building and maintenance, including war damage repairs	22	
	—	48
Plant.		
Electricity, gas, post office	9	
Roads, bridges, docks, harbours, canals, etc. ...	4	
Railways, commercial road vehicles, shipping and civil aviation	15	
Plant for industry, mining and agriculture	24	
	—	52
	—	—
		100

If the cutting of the 450 million pounds of capital expenditure recommended by the F.B.I. were carried out on the basis on this proportionate distribution there would be involved the suspension or cancellation of 90 million pounds worth of housing and 126 million pounds worth of other building work and maintenance. This in turn would mean that approximately 144,000 building trade workers would be thrown out of employment. This figure is in addition to the 200,000 who would become subject to direction to other industries if the proposed adoption of payment by results secures its desired end of increasing production per man-week. [This matter formed the subject of a leading article in *The Builder* two weeks ago.—ED.] Can we afford to upset the balance of industrial man-power to this extent? It may be true, as the F.B.I. argue, that capital expenditure should not exceed true national savings. But is it not equally true that you cannot upset the internal economy of the country and the balance of employment without imposing great hardship on some sections of the community?

The building industry has been more than a little unfortunate in the efforts of well-meaning busybodies to plan its economy. It is not so long ago that H.M. Office of Works, expanded into a Ministry of Works and Buildings, entertained grandiose ideas about expanding the industry to absorb two million men immediately after the war. *The Builder* then expressed doubts as to the wisdom of expanding the personnel in the building industry without making adequate provision for the production of the necessary materials. The present Government, in response to clamour from some sections of the industry, has built up its post-war strength to something equivalent to its pre-war strength — namely, around 1,300,000. But the production of materials still falls far short of the pre-war production and, thus, unequal planning is reflected in poverty of building output. The Government's vacillating policy in regard to timber imports, coupled with the failure of the industry to produce any satisfactory substitute for timber, has also —by creating a bottleneck as it were at the point where all trades converge—had a marked effect in both slowing down progress and piling up costs.

Faced as it would now appear to be with unemployment on a large scale, the industry may find that its efforts to eradicate a "go-slow" policy are either helped or hindered. The fear of unemployment may prove to be the spur in which some employers have so much faith. On the other hand, it will take years to complete the building projects already started, and delays in the supply of materials will give ample cover for a ca'-canny policy.

To whom shall we look for a lead? The Building Industries National Council rendered yeoman service in the economic crisis of 1931. Are they ready and able to give a similar lead to-day?

11. Bombay : Modern Flats

TAKING NO CHANCES

A correspondent writes :—

MR. ERNEST BEVIN'S speech, with its mention of the American gold reserve at Fort Knox, Kentucky, has placed a pretty strong spotlight upon a comparatively unknown reinforced concrete one-storey structure. As gold worth more than £5,000,000,000 is kept in the building, the designers can be forgiven for building it with some regard to safety. Anyone who had an undue interest in acquiring that gold would first have to get past an army reservation, an electrified fence, and a ditch (why the ditch?), and 50 yards of machine-gun-covered ground. If our hero came out of this alive, he might by some fantastic miracle get inside the building. He would find all the passages are mirrored, that the vault walls are 25 ft. thick, and that the whole thing is built upon solid rock. After these trials, the facts that the door to the vault weighs 20 tons, and poison gas is given off if anybody should try to use an oxy-acetylene blowlamp on it, can be taken in the stride. As a last resort the vault can be completely flooded.

The officials, however, are getting a bit nervy about the advent of the atomic bomb (the vault was designed in 1936). All this makes the little business of 4 by 2s, etc., seem pretty small beer.

General View of Sports Section.

Boat-building Section.

Display of Garden Tools in the Commodity Hall. Mural by Miss Vivien Hislop.

"ENTERPRISE SCOTLAND, 1947" EXHIBITION

"ENTERPRISE SCOTLAND"

JAMES GARDNER, O.B.E., R.D.I., CHIEF DESIGNER

BASIL SPENCE, F.R.I.B.A., F.R.I.A.S., CHIEF ARCHITECT

THE EXHIBITION OF SCOTTISH GOODS and manufactures under the title of "Enterprise Scotland, 1947," which was opened at the Royal Scottish Museum, Edinburgh, on August 25, by the Duke and Duchess of Gloucester, was fully reviewed in an illustrated article by Mr. Alexander Adam in our issue for August 29. Shown on this and facing pages are further illustrations of sections of the display which, though bereft of their colour, serve to give an impression of the high quality of display and design achieved by Mr. James Gardner, O.B.E., R.D.I. (chief designer), and Mr. Basil Spence F.R.I.B.A., F.R.I.A.S. (chief architect).

Top: General view of the Furnishing Section (Interior) in Textile Hall.
Right: General view of Commodity Hall.

NORTHFLEET COUNTY MODERN SCHOOL FOR GIRLS, FOR THE KENT EDUCATION COMMITTEE

E. D. LYONS AND L. ISRAEL, AA.R.I.B.A., ARCHITECTS, IN COLLABORATION WITH S. H. LOWETH, F.S.A., F.R.I.B.A., ARCHITECT TO THE KENT COUNTY COUNCIL.
R. T. GREEN, F.R.I.B.A., DEPUTY ARCHITECT IN CHARGE OF EDUCATION BUILDINGS

E. D. LYONS AND L. ISRAEL, AA.R.I.B.A., ARCHITECTS, IN COLLABORATION WITH S. H. LOWETH, F.S.A., F.R.I.B.A., ARCHITECT TO THE KENT COUNTY COUNCIL.
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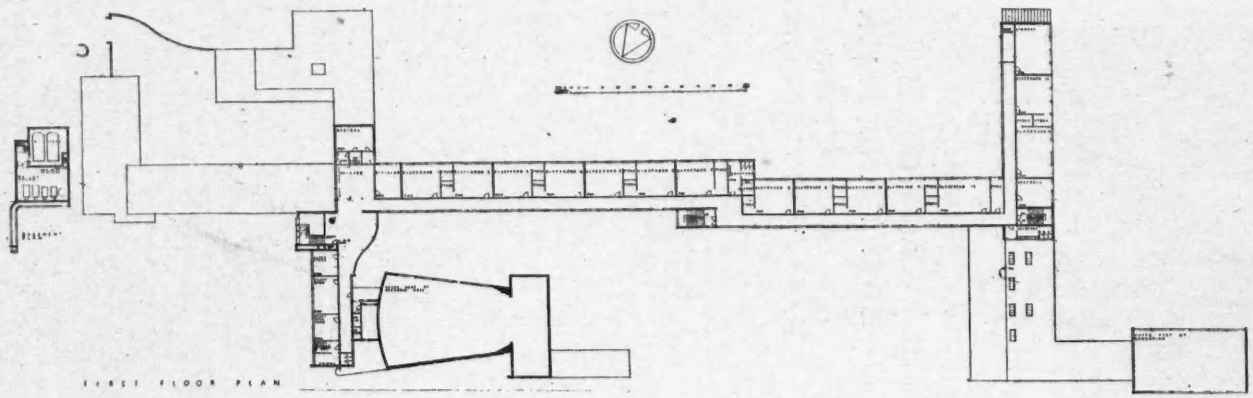
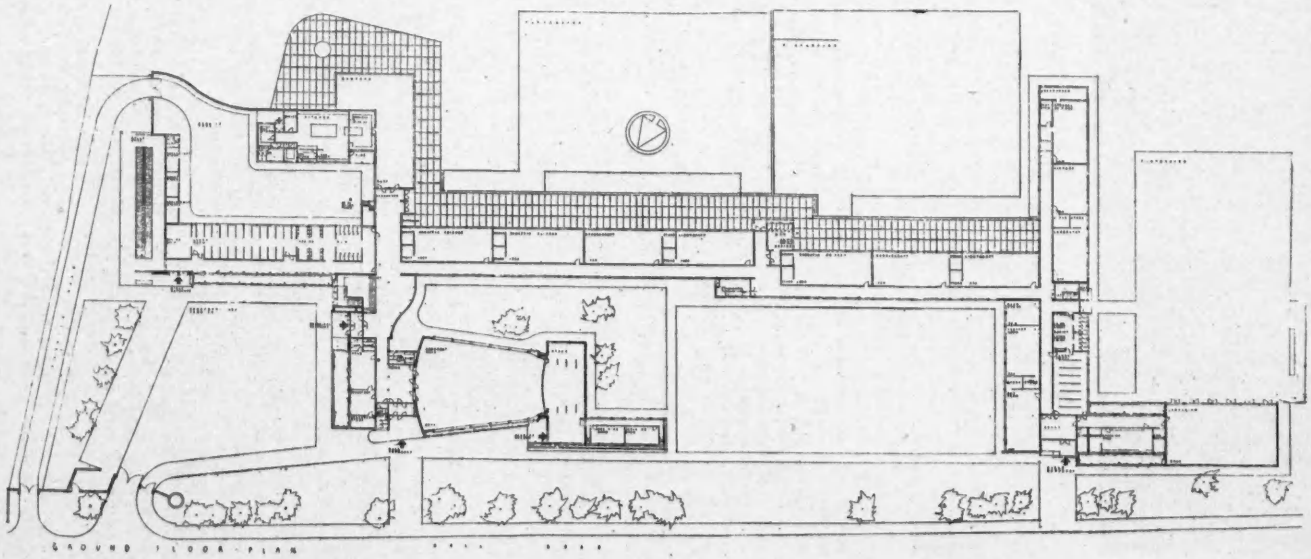


The First-floor Plan.



The Ground-floor Plan.

NORTHFLEET COUNTY MODERN SCHOOL FOR GIRLS, KENT

THIS NEW BUILDING FOR THE COUNTY Modern School for Girls will be erected at Northfleet, Kent, and is part of the Operational III Programme of the Kent Education Committee.

The building is designed to be erected in three stages. The first stage consists of seven classrooms, four practical rooms, cloak, lavatory and cycle accommodation, and an administration wing, which will serve the whole project in its ultimate form. In addition accommodation is provided for medical inspection room, waiting and changing rooms, and finally in this stage is a canteen block, complete with kitchen and ancillary rooms (though owing to present restrictions it may be found necessary to defer the erection of this block until the completion of the teaching room accommodation of the first stage has been completed).

The second stage will consist of additional classrooms, practical rooms and cloak-lavatory accommodation.

The third and final stage will consist of the assembly hall, gymnasium with three ancillary rooms, and also provision will be made on the site for an open-air swimming pool complete with cubicles, sun terraces, etc., adjacent to the gymnasium.

The period for completing the building through its successive stages will depend largely upon the availability of labour and materials; it is expected, however, that the first stage will be commenced early in 1948. In the first part provision is made for 320 girls, and the ultimate accommodation will provide for 600 girls.

The site forms part of a pleasantly timbered estate of a late Georgian house, situated about a quarter of a mile to the north of the Rochester Way. Being situated on high ground and falling from the north to its southern boundary, it commands some magnificent views across the gently falling countryside lying to the south and south-east. At the top of the site, which is the ridge of a hill, is some good timber which will form a pleasant background to the building when seen from the Rochester Way and will enhance

HAWKMOOR SANATORIUM, NEAR BOVEY TRACEY, DEVON. New Treatment Block: Entrance Front.

the appearance of the elevations to the road at the north of the site.

Full advantage has been taken of these site amenities, and with the site contours in the main being from east to west it has been possible so to design the plan as to give almost every teaching room a south-east aspect open to the view, and at the same time avcid any deep cutting and filling or change in level of the ground floor.

The assembly hall is planned so as to enable it to be used independently of the school as and when required. It will be wired for cinematograph projection and for wireless. Attention will be given in the design of the hall to ensure good acoustic quality.

The teaching accommodation is planned on two floors with the exception of the art and lecture rooms.

The building will be a light steel-framed construction on an 8 ft. 3 in. grid with the exception of the single-storey parts of the structure, which will be designed with weight-bearing walls. Practically the whole of the external steel frame will be faced with narrow width pre-cast concrete slabs bolted to the steelwork, forming mullions and transoms to the windows. A small amount of brick infill panels will be used where window openings are not required. Each teaching room and working room will have metal windows spanning the full width between the stanchions and from floor to ceiling with a metal panel infill up to sill level.

The suspended structural floors and roofs will be of asbestos or light alloy self-centering sheeting with a topping of lightweight concrete. The floors generally will be of a bituminous composition finish and the roof will be covered with bituminous fabric protected from solar attraction and disconnected from vertical wall facings and copings by independent metal flashings. The floors to the staff rooms will be in wood blocks, and in due course hardwood strip flooring in the assembly hall and gymnasium.

Low-pressure heating and domestic hot-water services will be from solid-fuel-fired boilers contained in the basement. The boilers will be capable of being converted to use oil fuel if and when required.

The architects are Messrs. E. D. Lyons and L. Israel, AA.R.I.B.A., in collaboration with Mr. S. H. Loweth, F.S.A., F.R.I.B.A., County Architect to the Kent County Council. Mr. R. T. Green, F.R.I.B.A., is Deputy Architect in charge of Education buildings.

Messrs. Stinton Jones and Partners are the consulting engineers for the heating, hot water and electrical services, and Messrs. S. H. and D. White are the consulting engineers for the structural frame and floors.

"PHOTOGRAPHY AIDS EXPORT" EXHIBITION

On Friday, September 5, there opened at the Alpine Galleries, South Audley-street, an exhibition of photographs entitled "Photography Aids Export." The exhibition is organised by the Institute of British Photographers, whose members believe that vivid and convincing photography can do much to stimulate overseas trade.

The exhibition, which continues until September 30, is small but good, being composed of a selection of pictures which demonstrate photography's versatility and vitality. The subjects cover a wide field, though several of architectural interest are prominent: John Maltby's "Steelwork for Odeon Cinema" accurately conveys the strength and character of this method of construction, while E. Chambre Hardman, with "Thunder over Glencoe," exhibits a fine composition of stone farm buildings suffused with the dull light of a storm-charged sky.

The accidental beauty often possessed by stark, utilitarian industrial plant is cleverly captured by Sidney W. Newbery, whose "Cement Slurry Tank" is a remarkable expression of light and symmetry.

To give information on the application of photography to any specific purpose or need, the Institute of British Photographers has set up an advisory panel.

HAWKMOOR SANATORIUM, BOVEY TRACEY, DEVON

H. V. DE COURCY HAGUE, F.R.I.B.A., COUNTY ARCHITECT

The Ministry of Health approved a tender for the new treatment block, Hawkmoor Sanatorium, near Bovey Tracey, Devon, for Devon County Council, in March, 1944, and the work was commenced in April of that year. It was completed in November, 1945, when the building was opened by Col. R. Ward, M.C., County Alderman.

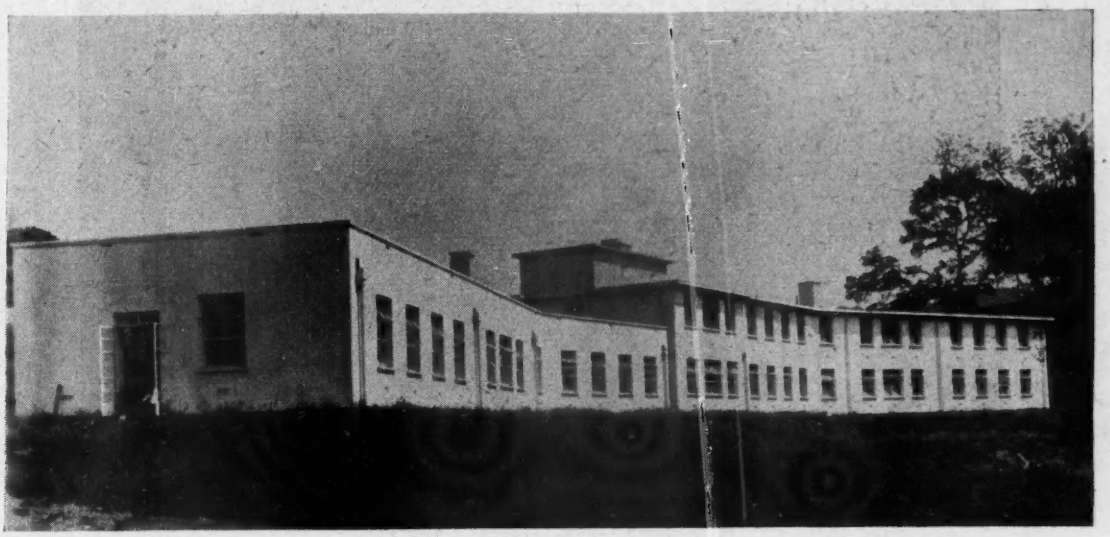
It provides accommodation for 60 additional patients (40 males and 20 females). The male and female blocks are grouped in one building on the site to the west of the men's pavilion.

The general construction is of 16 in. cavity walls (ground floor) and 11 in. cavity walls (first floor). Floors are of concrete. Internal walls are plastered. The flat concrete roofs are covered with Anderson's patent bituminous roofing material.

The steel windows were supplied by Messrs. J. Gibbons, Ltd., Wolverhampton. The concrete floors are covered with Granwood patent flooring. Cast stonework was supplied by the Wharf Lane Concrete Co., Ltd., Ilminster, Somerset. Heating installation and domestic hot water supply were installed by the Brightside Foundry and Engineering Co., Ltd., Bristol. Electrical installation was by A. J. Thomas, Newton Abbot, and reinforcements by the British Reinforced Concrete Engineering Co., Ltd., Stafford.

The general contractors were Messrs. Woodman and Son, of Exeter. The clerk of works was Mr. E. G. Harris, and the quantity surveyors Messrs. Bare, Leaning and Bare, of London.

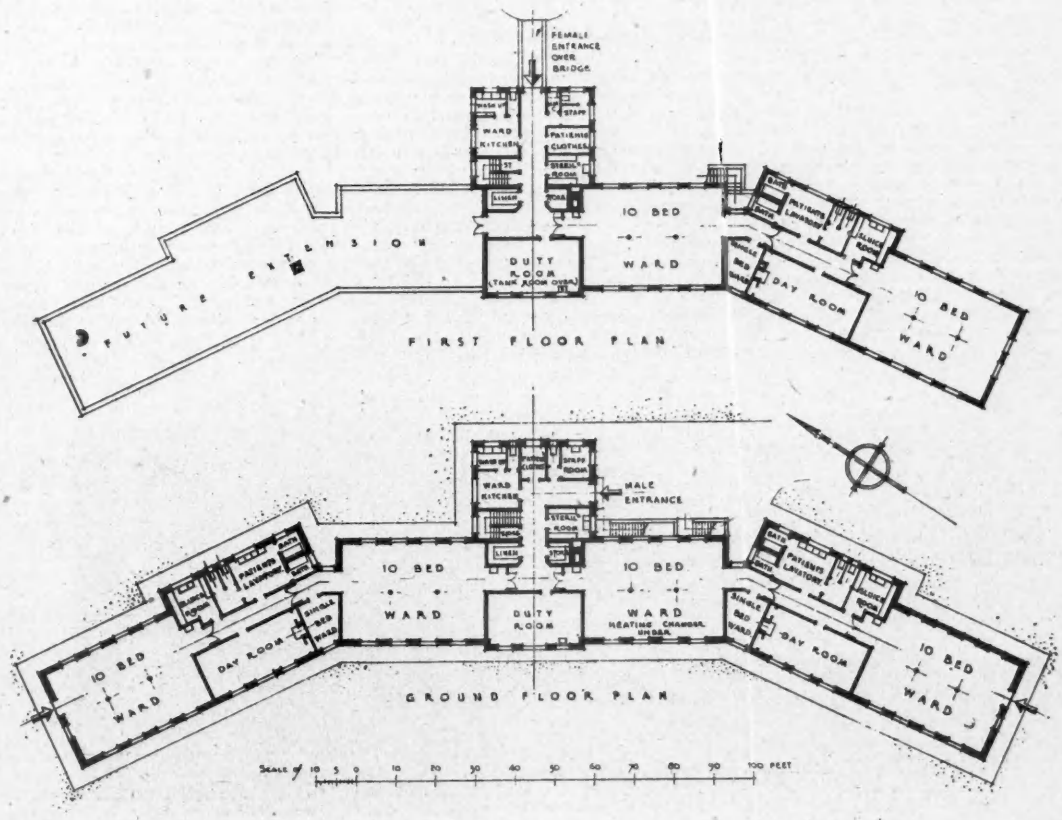
Mr. H. V. de Courcy Hague, F.R.I.B.A., Devon County Architect, was the architect for the work.



Back Elevation.

HAWKMOOR SANATORIUM, near BOVEY TRACEY, DEVON: NEW TREATMENT BLOCK

H. V. DE COURCY HAGUE, F.R.I.B.A., COUNTY ARCHITECT



Cambois Pithead Baths, Northumberland, for 912 men. Opened May 18, 1940.
Architect: F. G. Frizzell, A.R.I.B.A.

"MINERS' WELFARE IN WAR TIME"

COMMISSION'S CURRENT REPORT

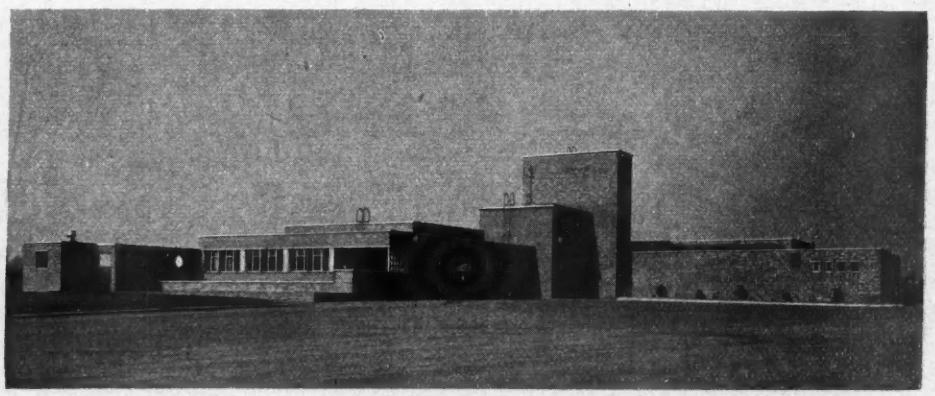
UNDER this title has just been published a record of the work of the Miners' Welfare Commission during the 6½ years from 1940 to the middle of 1946 when the members vacated office in accordance with the Coal Industry Nationalisation Act, 1946. During that period grants amounting to £5 millions were made by the Commission out of the Miners' Welfare Fund, a fund composed of a levy of 1d. a ton paid by colliery companies on the coal produced and a levy of 1s. in the £ on mining royalties.

As far as practicable under the abnormal conditions, the Commission continued its normal activities, which have resulted in the provision and organising of more than 1,500 schemes for recreation, both indoor and outdoor, and for other leisure-time pursuits, upon which nearly £6 millions have now been expended out of the Fund, the provision of 345 pithead baths at a cost of £6½ millions, 15 convalescent homes at a cost of nearly £3 millions and medical and surgical treatment and appliances for £1¼ millions, besides grants of more than £1¼ millions for the work of the Safety in Mines Research Board towards making the miners' work safer and healthier, and scholarships and grants to the amount of nearly £1¼ millions for mining and other students and for other educational purposes. The total grants to the end of 1945 amounted to £23,231,000, of which only 1.6 per cent. was for the Commission's administration expenses.

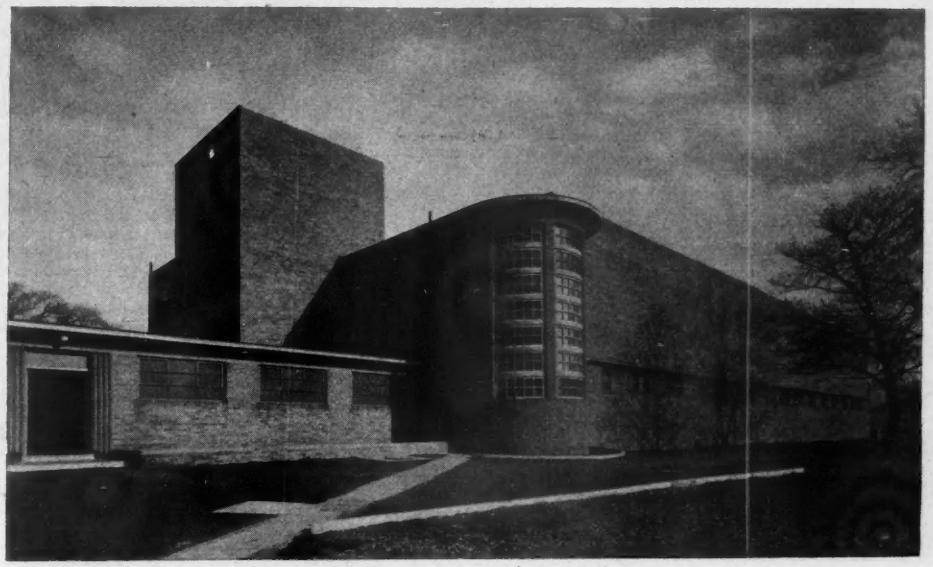
1,000 Canteens Provided

Although the Government restrictions imposed in 1940 upon building and construction work set limits to new welfare developments, these restrictions were relaxed to enable the Commission to provide nearly 1,000 canteens at collieries at a cost of £2,711,000 in order to give miners opportunities of obtaining the extra rationed foods required by heavy industrial workers. The amount of foodstuffs reaching the miners by means of the canteens was no less than 15,000 tons a year and the cash takings were at the rate of £6,750,000 a year or £135,000 a week. Another important accomplishment of the Commission was to establish seven medical rehabilitation centres for miners. This was one of the measures recommended when the Ministry of Fuel and Power was instituted in 1942 and charged with the task of increasing the production of coal. Besides treating the actual injury or affection, rehabilitation aims at restoring general muscle tone, full function of body and limbs, general health, strength and self-confidence, and then resettling the individual in his old occupation or training him and settling him in another occupation more suited to his future physical capacity. These seven centres had been organised and set in operation in less than two years. With four other centres projected, they will provide for the whole mining industry, the only industry to be so well equipped. In doing this the Commission has led the world in the development of rehabilitation treatment.

The Report now published at 1s. 6d., from Ashley Court, Ashtead, Surrey, gives particulars and photographs of all these activities. Much of the Commission's architectural work, which is of an acknowledged high standard, has been illustrated in *The Builder* in the past 27 years, and three pithead baths—designed by staff architects, under the direction of Mr. C. G. Kemp, F.R.I.B.A., who succeeded Mr. J. H. Forshaw, M.C.,



Williamthorpe Pithead Baths, Derbyshire, for 1,196 men. Opened April 10, 1941.
Architect: J. W. M. Dudding, F.R.I.B.A.



Littleton Pithead Baths, Cannock Chase, for 1,728 men. Opened June 20, 1941.
Architect : W. A. Woodland, F.R.I.B.A.

F.R.I.B.A., when the latter was appointed to the London County Council—are now reproduced from the current report.

In spite of the restrictions inevitably brought about by the war, 41 pithead baths were completed between 1940 and 1945, but there yet remained to be equipped with pithead facilities at the end of the war 510 collieries, a figure which excluded undertakings employing fewer than 50 men. The programme for 1946 included 31 contracts for new baths and the following target has been set for successive years : 1947, 60; 1948, 120; 1949, 120; 1950, 130; and 1951, 50. None had been planned for 1952. " Unfortunately," states the Report, " the requirements of housing have since made the Commission's difficulties very formidable, and the programme for 1946 and 1947 may be impossible of achievement in full." The programme is estimated to cost £11,500,000, which is much more than the sums likely to accrue to the credit of the Baths Fund under existing legislation, but the Minister of Fuel and Power has given an assurance that finance will not be allowed to impede progress.

Appearance of Colliery Premises.

Every annual report issued by the Commission since 1932 has drawn attention to the practicability of improving the appearance of collieries and to the fact that this in itself would have a welfare value. The provision of pithead baths has deliberately been used by the Commission as an opportunity for adding amenity at the place of work by the choice of the site, by the architectural effect of the baths, and by planting and landscape treatment. " Between 1933 and the outbreak of war (states the Report), a considerable number of colliery companies, impressed perhaps by the sincerity of the advocacy in the Commission's Annual Reports and persuaded by the proof afforded by the buildings provided out of the Welfare Fund that ugliness and untidiness are not inevitable features of a coal mine, made complementary improvements to surface buildings and layout. The advice of the Commission's architects has generally been sought in connection with these works, which have usually been carried out at the time of the building of the baths, and examples were illustrated in the Commission's Annual Reports for 1935 (Coventry Colliery, Warwickshire), 1937 (Manvers Main Colliery, South Yorkshire), and 1939 (Clock Face Colliery, Lancashire).

" One of the most extensive schemes with which the architects were concerned shortly before the war was at a new colliery of the Fife Coal Co., at Comrie, in Fife. A good site set in beautiful country gave scope for planning and designing a colliery which, in appearance, is said to be second to none. This scheme, which was completed in 1942, was inspired by Sir Charles Reid, General Manager of the Fife Coal Co., and subsequently Chairman of the Technical Advisory Committee on Coal Mining, whose report in 1945 said :—

" It is an unfortunate fact that the appearance of many colliery yards and offices often makes an impression of dirt and disorder which must have contributed materially to the critical attitude of the general public towards the coal industry. The outside observer may be pardoned for drawing exaggerated conclusions as to conditions within the mine, when there is often so much disorder and dilapidation on the surface. Not only this; the appearance of the colliery premises can hardly fail to affect the psychology of all those employed at the mine, and there can be no hope of creating among the workmen a pride in their place of employment unless managements make a serious attempt to create something of which to be proud. Where plans are being made for a new mine or for remodelling old mines, it is desirable that the advice of an architect should be taken on the surface layout.'

" Provided that the advice of a skilled architect is sought and acted upon, the problem of establishing attractive conditions at the place of work can be solved satisfactorily, as the example of Comrie Colliery bears witness. . . . At some existing collieries drastic replanning will be required. At the request of the owners of Chislet Colliery (Kent), the Commission's architects have prepared a scheme for the future development of the colliery, which involves a large measure of replanning, the inclusion of additional offices, officials' houses and new pithead baths, and also, at the adjoining village, a hostel for new entrants and a shopping centre."

BURLINGTON'S DORMITORY

It is good to hear that Mr. Hubert Worthington, A.R.A., F.R.I.B.A., and Mr. A. L. N. Russell, F.R.I.B.A., have been asked to reconstruct the portion of Westminster School known as " College." All who know the lovely set of buildings which comprise the school will be pleased to hear this, for " College " (actually it is the dormitory building of the King's Scholars of the school) was designed by Lord Burlington about 1732, after Wren's design had come to nothing, and it was burned out during an air-raid in 1941. The shell of the building still stands, with its 3-ft. thick Bath-stone walls (it is said to be the earliest Bath-stone building in London). Facing as it does on to the college garden, the blackened Bath-stone façade, with its bold treatment of fenestration, seems to form an excellent contrast to the surrounding Abbey buildings. This particular corner of London must be preserved, and restored where necessary, at all costs. Few places are more valuable from the historical or the cultural point of view.

" College " merits the best treatment, not only because of the beauty of its stone or its clarity of design, but also because it forms a link in the chain of tradition of a great public school. Traditions, the best traditions, are always worth upholding, and looking at things in this light, this little corner at Westminster is indeed valuable.

Register of Architects.

The current Register of Architects (No. 14) set up under the Architects' Registration Acts is now published, price 4s., by the Architects' Registration Council, 68, Portland-place, W.1.

Hemel Hempstead: A Correction.

In connection with the paragraph on Hemel Hempstead appointments on page 269 of our last issue, we are asked to state that Mr. R. M. Finch is the City Architect, Nottingham, and not Mr. H. K. Ablett, who is the Housing Architect.

RECONSTRUCTION OF WARSAW

By DR. H. V. LANCHESTER.

Studies on Warsaw, just published,* are prefaced by an editorial note stating that the concept and plans of the Warsaw Metropolitan Community were conceived and developed during the German occupation by the underground workers. Most of the documents relating to this work were destroyed in the insurrection; what remained form the basis of what is now issued to testify that Polish planners have never interrupted their activities and that the present work of reconstruction is a continuation and development of ideas conceived before and during the war.

The chief principles laid down for the structure of the Metropolitan Community are as follows: A larger area should provide room for all the necessary physical elements, viz., residential, industry, recreation, community life and communications. A harmonious pattern is visualised for the disposition of the economic, administrative, political and social aspects, and also of scientific and artistic centres. The theoretical pattern of communications has to be adjusted to conform to the course of the river Vistula and is deflected to the N.W. to follow this.

The character of the problems presented is influenced by the fact that of all the capitals of the countries which participated in the war, Warsaw is the most destroyed. It went through the bombing and siege of 1939, a section of it was levelled to the ground after the end of the ghetto rising in 1943; finally, the city became the field of deadly fighting during the insurrection of 1944, and the greatest damage of all was done by the Germans after the failure of this insurrection when they evacuated the whole of the population and proceeded to destroy the city house by house. When, in January, 1945, the liberation put an end to these destructive efforts, the capital of Poland was one vast field of ruins and cinders; about 700 million cubic feet of rubble covered the area of the city.

The task of reconstructing Warsaw is of an unusual character; mindful of the long centuries of development of the city and of its high cultural traditions, it is desired to rebuild in a manner which would express the spirit of the present social, architectural and technical ambitions, efficient as the capital of the country and providing a future centre of international co-operation in Central Europe. There is no existing development to hamper the town planners' intentions. The capital of Poland is but recently reborn from its ruins. Of the old development there is but little left and the present population is only about one-third of the pre-war figure, so that its growth may be controlled and regulated.

The recent social and economic changes facilitate the work of planning. The nationalisation of production and distribution gives control over the localisation of industry and population, while the communalisation of land in Warsaw enables this to be allocated for appropriate purposes. Thus it is imposed on the town planner to work out a programme defining the functions of the city as well as its desired population and social composition; his whole work will be closely related to economic and physical planning on a regional and national scale.

As the capital, Warsaw must be the centre for Polish social, cultural and scientific life, together with industrial plants having highly qualified technical and scientific staffs, so that it would be regarded as a great metropolitan experimental laboratory in the widest sense of the term. The aim is to get a balanced population of all classes spread throughout the city, social segregation is regarded as undesirable, and it is intended that representatives of all professions should be able to live in all parts of the city within a short distance of their working places. All parts would be equally well provided for as regards community life and leisure.

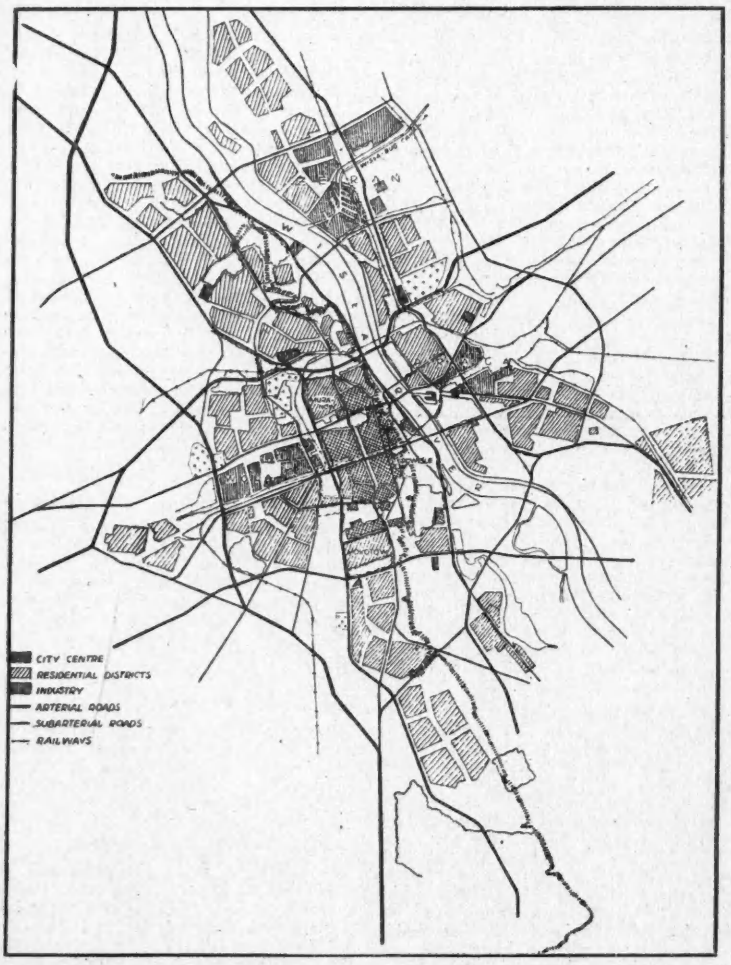
The size of the capital is regarded as a question not only of quantity, but also of quality; its expansion should not be the result of a blind and chaotic play of forces. With sound planning a smaller number of inhabitants will be able to fulfil the tasks which, in different conditions, would require a much larger one. In 1939 Warsaw, the capital of a country of 35 million inhabitants, had a population of about 1,300,000. As the result of losses by war and changed frontiers, Poland counts at present only 24 million inhabitants: the urban losses have been particularly great. It is considered that the ultimate size of Warsaw might be put at 1,200,000, but that for the next 10 to 15 years 800,000 may be the appropriate objective.

The functional pattern of the city, with its tendency to bring together areas of similar destination, implies a measure of centralisation, but this must be qualified as far as practicable, as if excessive it would create serious difficulties in communication. To avoid over-concentration a system of basic territorial units is proposed; a housing estate (up to 2,000 people), a neighbourhood unit (about 10,000 people), and a district (about 50,000 people); the size of such units may vary according to topographical and social conditions. This breaks up the compact bulk of the city, so that a net of open spaces can divide the districts and smaller units.

In the somewhat monotonous countryside surrounding Warsaw the valley of the Vistula forms a striking and valuable landscape feature; its left (S.W.) bank takes the form of a beautiful escarpment about 60 ft. high; the right bank is relatively flat. The Old Town stood on the left bank, and the earlier growth was north and south of this with later extensions further out and on the right bank of the river. The natural development of the city is along the banks of the river, while the strip along the top of the high bank to the left is of decisive importance and the chief field for expansion.

Solicitude for the preservation of the natural culture suggests the reconstruction of certain destroyed buildings and monuments in the centre on traditional

* PHYSICAL PLANNING AND HOUSING IN POLAND. 1946. Including Polish reports for the Congress of the International Federation for Housing and Town Planning, in Hastings, October 7 to 12, 1946. Warsaw, 1946, for the Ministry of Reconstruction, Trzaska, Evert and Michalski, Ltd., and E. Kuthan.



Key Plan for the Proposed Reconstruction of Warsaw.

lines, even where this would be unjustifiable from a purely material point of view. However, the revived historical architecture will not in itself provide for the full needs of the social and cultural institutions in the metropolis. Therefore, new buildings must arise; they will be architectural complexes of large dimensions, as, for instance, the seat of Parliament and National Assembly, or the enlarged existing National Museum.

Towards the west of this centre the passage from historical to modern forms may take place in a harmonious manner; here will be placed the more important Government and municipal offices, together with some economic institutions, central boards of different industries and financial concerns. Farther out, sites would be found for the managements of industrial undertakings, centres of exchange, co-operative societies, insurance companies, and a variety of other offices of a similar type, and near by an industrial area related to the planned tasks of the centre, largely factories of research character, aiming at the highest quality of product and the elaboration of new methods.

As regards residential planning, the circumstances in Warsaw seem to justify the hope that the social objectives will be realised. Land and financial aid for building will be provided by the City Corporation and the State on condition that the approved principles and methods of planning are complied with, so the scope of this is widened and extended over a variety of social groups and not limited to those which are economically weakest. The aim is to encourage a community life deprived of all social prejudice.

CORRESPONDENCE

Control of Mouldings?

TO THE EDITOR OF *The Builder*.

SIR,—During an auction of Government surplus building materials at Hounslow the auctioneer, on behalf of the Ministry of Works, announced with some diffidence that those who purchased wood mouldings were not permitted to change the shape of the mouldings. This news was received by the bidders with an hilarity which indicated their contempt for a typically futile order, impossible to enforce.

The realisation that the use which one can make of one's chattels can be controlled at the whim of some Whitehall bureaucrat no doubt gave rise to some subsequent hard thinking.

J. M. JENNINGS.

Chessington, Surrey.

Applications for Public Appointments

TO THE EDITOR OF *The Builder*.

SIR,—In his reply to my letter about the style and quality of applications [*The Builder*, September 5], Mr. D. Chambers seems to miss the point of my recommendations.

The reason why I suggested the elimination of the major faults committed in applications is to simplify the task of the official who has to tabulate the essential information needed by the appointments committee, in order to arrive at a suitable short list of candidates.

To follow out my suggestion that applicants would do well to spend some time in writing out a basic draft of what they have to say in their applications does not remove any of the most useful pointers to their suitability, as Mr. Chambers suggests. Even if applicants were to follow my advice, surely if any were illiterate, ungrammatical or untidy, then these characteristics would still be evident in the general style, or lack of it, in which an application is composed. Otherwise, I would have advocated a more general use of the official form of application, which does produce a uniform statement of essential information in the desired sequence. The reason why I did not advocate this was precisely to ensure that applicants should provide an indication of their ability to state their case in their own way; but, at the same time, they can at least make sure that they do put over the essential points covering their previous experience, training, age, address, education, qualifications, etc., in such a way that it can be easily read and abstracted.

As for the remarks in Mr. Chambers's last paragraph, in which politics rears its ugly head, these are totally irrelevant and have no bearing whatsoever upon the subject of my original letter [*The Builder*, August 22]; therefore, I refuse to be drawn into passing any opinion upon this red herring.

"SHORT-LIST."

SOCIETIES & INSTITUTIONS

R.I.B.A.

The Final Examination, July, 1947.

THE Final Examination was held in London, Edinburgh and Belfast from July 2 to 11, 1947. Of the 212 candidates examined, 101 passed as follows: Passed whole examination, 48; passed whole examination, subject to approval of Thesis, 28; passed whole examination, subject to approval of remaining Testimonies of Study and Thesis, 2; passed whole examination, subject to approval of remaining Testimonies of Study, 2; passed Part 1 only, 21. One hundred and eleven candidates were relegated.

The successful candidates are as follows:

WHOLE EXAMINATION.

E. G. Y. Adams (*Distinction in Thesis*).
*M. Y. Alden (Miss)
F. E. Allen (Miss) (*Distinction in Thesis*).
P. H. Barry.
V. G. Bartholomew.
*J. Bates.
*†K. M. Baxter.
*G. J. Beard.
I. M. Bellamy.
L. J. Bishop.
G. D. Boddington.
M. R. Bordoli.
J. Bowes (*Distinction in Thesis*).
C. D. Brewins.
*K. A. Brewster.
E. K. Brooks (Miss).
J. H. C. Brown (*Distinction in Thesis*).
D. Buckler.
P. Busbridge (Miss) (*Distinction in Thesis*).
*B. C. Chessum.
*A. D. Clarke.
N. G. Coughlan.
N. H. Cox.
*C. N. Craig.
†J. B. Day.
N. Drinkwater.
H. Eckersley.
J. Farrar.
H. Forth.
D. M. Fletcher (Miss).
*F. H. Frost.
R. W. Fury.
*M. V. Gardiner (Miss).
*F. E. Hall.
H. Hargreaves.
T. C. Hartley.
T. R. Hayes.
R. W. Horton.
A. V. Howard.
A. G. Hughes.
*J. B. Lawson.
*D. J. Lowden.
*W. Magson.
N. B. Mitchell.
D. E. W. Norfolk.
*†N. C. Nullis.
C. R. Nurse.
*R. A. Patten.
*D. Pearcy.
*G. M. Pearson.
D. G. Pepperell.
*K. G. Pert.
G. P. Platt.
E. Pollitt.
R. S. Poole.
A. G. Price.
V. H. S. Prichard
A. M. Quickenden.
*A. Roscoe-Hudson
*W. H. Sanderson.
S. H. Schwartzel.
†D. O. Searle (*Distinction in Thesis*)
*D. Sherret.
*A. D. Sherwood.
*H. Shuttleworth.
*H. W. Smith.
*J. G. Sowerby.
M. Tallet (Miss).
F. Thornton.
*S. G. Tomlinson.
E. F. Tucker.
S. Vere.
A. G. Versino.
*J. L. S. Vincent.
S. F. Vine (*Distinction in Thesis*).
A. Watson.
*J. H. D. Wickham.
*J. A. Wilson.
C. R. M. Wood.
R. Woods.

* Subject to approval of Thesis.
† Subject to approval of remaining Testimonies of Study.

PART 1 ONLY.

J. P. Alton.
R. E. K. Bance.
D. Bennis.
L. H. Blockley.
J. R. W. Carman.
L. Chandler.
H. J. Chitty.
J. Curtis.
F. C. Davies.
M. E. P. Driver (Miss).
L. M. Hutchings (Miss).
C. H. Jacob.
C. S. H. Jhabvala.
V. T. Jopling.
J. Roberts.
M. M. Sherman (Miss).
*G. E. Thorne.
D. H. R. Watson.
J. C. West.
J. S. Whitney.
G. F. H. Woodcock.

* Subject to approval of remaining Testimonies of Study.

The Special Final Examination, July, 1947.

The Special Final Examination was held in London, Edinburgh and Belfast from July 2 to 11, 1947. Of the 320 candidates examined, 134 (30 in Part 1 only) passed. One hundred and eighty-six candidates were relegated.

The successful candidates are as follows:

WHOLE EXAMINATION.

R. Anderson.
B. Bancroft.
P. J. Barbary.
G. W. Barrell.
W. L. Barrow.
G. C. Beech.
J. H. Betts.
R. J. Bidmead.
J. Brown.
T. Brown.
K. D. Burbridge.
A. W. Butler-Bowdon.
O. P. Carver.
E. J. Cavanagh.
E. A. Clarke.
L. J. Conway.
C. O. J. Cook.
L. C. Cooper.
W. Cowan.
M. E. Crocker.
J. Crowther.
P. Date.
W. R. Dickson.
A. A. Dixon.
R. J. Double.
F. J. East.
C. W. T. Evans.
A. G. Everett.
P. A. Faulkner.
L. P. J. Fox.
R. E. Furbank.
R. C. Garrett.
A. G. Gates.
E. Gomersall.
R. I. Greatrex.
C. L. Griffiths.
J. W. P. Grimes.
E. G. Harvey.
G. C. Haydon.
J. E. Henderson.
A. J. Hepworth.
H. Hollingworth.
F. P. Johnson.
J. M. Kidall.
V. C. H. Knight.
R. H. Leach.
P. J. Leary.
W. P. Lees.
G. C. Leopard.
H. R. Lewis.
G. S. K. Locke.
J. N. Lockerbie.
R. C. Lusty.
H. F. Malkin.
M. J. Mann.
H. V. Marinier.
F. L. Mason.
L. B. Matthews.
E. V. Miller.
M. A. Mimmack.
L. Morley.
W. I. Mort.
W. Muirhead.
P. W. J. Neale.
R. Neil.
V. H. O'Neill.
A. Panditratne.
L. E. Parkinson.
H. C. Parsons.
E. H. Paul.
J. H. Pearson.
R. E. Pethybridge.
A. Pomfret.
D. T. B. Pope.
P. J. L. Powell.
A. J. Power.
N. K. Purnell.
J. Ramsay.
P. R. Sawyer.
F. C. Sheffield.
A. Shepherd.
G. E. Smee.
E. W. Smith.
G. E. Soulsby.
F. L. Southey.
J. C. O. Stansfield.
I. A. Stark.
E. F. Stronach (Miss).
H. A. Stroud.
S. Swift.
J. J. Symes.
W. J. Trustam.
J. W. Van der Steen.
B. F. Venvil.
R. G. D. Vernon.
G. B. Vint.
D. V. C. Walker.
W. M. Ward.
J. C. P. West.
R. F. Wiffen.
R. R. D. Wigley.
J. S. Williams.
S. S. Williamsen.
J. H. Wilson.

PART 1 ONLY.

K. W. Barns.
S. Beesley.
H. G. B. Belam.
A. J. S. Bellamy.
K. J. Bird.
J. L. Boak.
D. F. Boyt
R. J. Brown.
M. M. Crammond.
J. H. Elmer.
A. J. Gasson.
S. J. Hanchet.
A. F. J. Hannaford.
A. E. Hodnett.
D. Hunt.
J. R. Kane.
J. H. Kenshole.
S. J. C. Kinsman.
A. H. Langston.
J. M. D. Little.
C. E. Lovegrove.
L. L. Luck.
A. C. Rowling.
C. S. Russell.
S. L. G. Stacey.
J. A. Stent.
R. E. Summers.
J. D. Whitehouse.
H. Wilcox.
K. M. Young.

The following candidates have also passed the Special Final Examination:—

J. Beresford.
C. W. E. Chapman.
R. M. Graham.
R. F. Knott.
T. K. Makins.
G. E. Matthews.
S. E. Nicholas.
P. T. Powell.
J. E. Raynham.
J. M. Slater.
R. M. T. Tyler.
A. R. Whitelaw.
W. T. Williams.

The Examination in Professional Practice for Students of Schools of Architecture Recognised for Exemption from the R.I.B.A. Final Examination.

The Examination was held in Edinburgh on July 8 and 10, 1947. Of the 16 candidates examined, 11 passed and five were relegated.

The successful candidates are as follows:

M. K. Borland (Miss).
A. M. Buchanan.
A. J. Cina.
A. M. Doak.
A. J. Elborn.
R. M. Robertson.
R. W. K. C. Rogerson.
H. D. B. Torrance.
K. G. Wallace.
A. R. S. Watson.
H. A. Wheeler.

HOUSING PROGRESS

JULY FIGURES

THE monthly housing progress reports, presented to Parliament as White Papers* by the Minister of Health and the Secretary of State for Scotland, show that 12,426 permanent houses were completed in Great Britain during July (bringing the total to 124,013). This compares with 11,922 during June and 11,759 during May. The number of temporary houses finished in July was 4,883 compared with 4,120 in June and 4,415 in May. The total of temporary houses completed at the end of July was 120,212 and the total of new houses, permanent and temporary, was 244,225.

During July homes were provided by new building, repair of uninhabitable houses, conversion and requisitioning for 21,222 families, compared with 21,347 in June and 21,101 in May.

The position in Great Britain at July 31 was as follows :—

ALL HOUSES (Permanent and temporary, local authority and private enterprise).

	Total at July 31	*Increase or decrease on June 30.*	*June increase or decrease on May*
Houses completed—			
Permanent 124,013 ; Temporary 120,212	244,225	17,309	16,042
Houses under Construction—			
Permanent 248,914 ; Temporary 6,502	255,416	5,795	7,758
Houses Projected but not begun—			
Permanent 110,494 ; Temporary 32,242	142,736	—6,426	—11,044
Total Built, Building and Projected—			
Permanent 483,421 ; Temporary 158,956	642,377	16,678	12,756
Total number of Families Housed—			
By new building, repair of uninhabitable houses, conversion, and requisitioning	417,551	21,222	21,347

PERMANENT HOUSES: Division between local authorities, private enterprise and Housing Associations—(Great Britain).

	Houses completed at July 31.	*Inc. on June 30.*	*June inc. on May*	*Houses under construction at July 31.*	*Inc. or dec. on June 30.*	*June inc. or dec. on May.*
Local Authority	62,604	8,173	7,788	196,155	6,733	7,585
Private Enterprise	46,887	2,849	2,862	27,214	—505	—530
Housing Associations	1,800	271	157	6,770	436	558
Government Departments ...	273	39	49	2,087	123	217
War Destroyed Houses Rebuilt—						
Local Authorities	4,565	222	280	3,453	—178	—115
Private Builders	7,884	872	786	13,235	19	434
Total	124,013	12,426	11,922	248,914	6,628	8,149

Taking England and Wales only, the position was :—

	Houses completed at July 31.	*Inc. on June 30.*	*June inc. on May.*	*Houses under construction at July 30.*	*Inc. or dec. on June 30.*	*June inc. or dec. on May.*
Local Authority	54,250	7,430	7,102	164,516	5,208	6,689
Private Enterprise	45,520	2,665	2,731	24,573	—536	—563
Housing Associations	413	111	29	1,177	105	128
Government Departments ...	273	39	49	1,955	88	185
War Destroyed Houses Rebuilt—						
Local Authorities	4,252	180	280	3,078	—136	—115
Private Builders	7,864	872	772	13,139	12	448
Total Permanent Houses (England and Wales)	112,572	11,297	10,963	208,438	4,741	6,772

Housing Labour Force.

The total labour force employed on the construction or repair of houses in Great Britain fell during July from 556,700 to 550,300. There were 245,900 men engaged on the construction of permanent houses and preparation of housing sites compared with 245,100 at the end of June, and 11,100 on erection of temporary houses, compared with 12,300 at the end of June. The number on war damage repairs dropped from 106,000 to 100,000.

Note.—A new system of return of the number of employees in the building and civil engineering industries has now been instituted by the Ministry of Works. In view of the change in the basis of collecting the data, and of the possible incompleteness of the new return, comparisons of the numbers engaged on new housing at end of January and at end of July respectively might be misleading.

SUMMARY OF HOUSING PROGRESS REPORTS.

	England and Wales.		*Scotland.*		*Great Britain.*	
	July 31.	*June 30.*	*July 31.*	*June 30.*	*July 31.*	*June 30.*
Completed Houses—						
Permanent	112,572	101,275	11,441	10,312	124,013	111,587
Temporary	101,271	97,751	18,941	17,578	120,212	115,329
Total	213,843	199,026	30,382	27,890	244,225	226,916
Under Construction—						
Permanent	208,438	203,697	40,476	38,589	248,914	242,286
Temporary	4,290	4,677	2,212	2,658	6,502	7,335
Total	212,728	208,374	42,688	41,247	255,416	249,621
Tenders Approved (*a*) (Local Authorities)	290,983	280,284	62,243 (*b*)	60,493 (*b*)	353,226	340,777
Licences Issued (*a*) (Private Builders) ...	79,034	76,829	4,129	4,039	83,163	80,868
Families Rehoused	417,551	399,028	35,738	33,039	453,289	432,067
Housing Labour Force (*c*)	495,100	500,500	55,200	56,200	550,300	556,700

(*a*) Includes houses under construction and houses completed.

(*b*) Only includes houses covered by licences issued by local authorities on behalf of the Ministry of Works as from August 1, 1945.

(*c*) Does not include German prisoners engaged on preparation of sites.

* Cmd. 7204 Housing Return for England and Wales, July 31, 1947. H.M. Stationery Office, price 9d., post-free 10d.

* Cmd. 7205 Housing Return for Scotland, July 31, 1947. H.M. Stationery Office, price 3d., post-free 4d.

CLOAKROOM EQUIPMENT FOR SCHOOLS

BRITISH STANDARDS PUBLISHED

"BRITISH Standards for Cloakroom Equipment for Schools," BS/MOE 26-29, have just been published by the B.S.I. They form the second part of a series produced at the request of the Ministry of Education in collaboration with the Ministry of Works and the Scottish Education Department; the first volume, which was published a month or two ago, included BS/MOE 1-7, "Sanitary Equipment for Schools (Fireclay)." All the specifications are based upon recommendations of the Schools sub-Committee of the Ministry of Works Standards Committee, the work of which is fully explained in Post-War Building Studies No. 24, "School Furniture and Equipment."

The work was commenced as the large programme of school construction resulting from the Education Act of 1944 made it essential that adequate supplies of the requisite materials and equipment should be available to meet the anticipated need. It was therefore considered that if basic standards of dimensions, materials and construction could be set down, they would result in a general economy. The present volume includes the following Standards : BS/MOE 26, "Gymnasium Clothes Cages"; BS/MOE 27, "W.C. Compartments with Tubular Metal Frames"; BS/MOE 28, "Cloakroom Fittings"; BS/MOE 29, "Shower-Bath Partitions."

Each Standard gives the requirements in respect of quality of materials, types and sizes, construction, and dimensions and details of fittings. The Standard for gymnasium clothes cages provides for units formed of mild steel angle-iron framework with wire mesh infilling, each unit providing accommodation for 30 pupils, with separate compartments for clothes and shoes. The unit may be obtained with or without doors.

The w.c. compartments comprise three types : first, for nursery schools; second, for infants' schools; and third, for all other schools. The framework is formed of wrought-iron tubes, whilst the partitions and doors may be either galvanised steel-faced plywood or aluminium-faced plywood.

The Standard for cloakroom fittings includes combined hat and coat rack and shoe lockers of three main types : first, floor and ceiling fixing; second, floor fixing only; and third, wall fixing. In addition, this Standard includes mobile racks for hats, coats and shoes, and mobile racks for towels, both of which are intended for nursery schools.

Three types of shower-bath partitions are described : a run-through type consisting of a permanently fixed screen without partitions between adjacent sprays, a cubicle type consisting of individual compartments permanently separated one from the other by means of fixed divisions, and a cubicle run-through type, in which it is possible temporarily to form separate compartments by means of movable curtains.

The volume of Standards is published at 7s. 6d. post free, and is available from the British Standards Institution, 28, Victoria-street, London, S.W.1.

70 Years a Bricklayer.

After working in the Medway Towns as a bricklayer for 70 years without a break, 83-year-old Mr. James Jarvis, of Morden-street, Rochester, has been presented with a testimonial by the Amalgamated Union of Building Trade Workers in recognition of 60 years' membership. Starting work at the age of 10, Mr. Jarvis retired three years ago.

GRADING OF AGGREGATES

THE WORKABILITY OF CONCRETE

ROAD RESEARCH TECHNICAL PAPER NO. 5

A TECHNICAL REPORT, for which there has been considerable demand by engineers engaged on concrete construction, has just been republished. It is "Road Research Technical Paper No. 5—The Grading of Aggregates and the Workability of Concrete" (H.M.S.O., Kingsway, London, W.C.2, England, price 1s. 6d., by post 1s. 8d.) which was first published in 1938 but has now been enlarged and slightly amended.

The Report describes an investigation into the effect of the ingredients on the properties of concrete; it deals especially with the relations between mix proportions, aggregate shape and grading, and workability. The main part consists of an examination of the effects of the shape and grading of the aggregate and of the mix proportions on the workability of concrete and much valuable data to help engineers in the choice of mix proportions are given. It is shown that while the water-cement ratio is the chief factor that determines the strength of concrete, the water-cement ratio in a given mix is itself largely determined by the grading and type of the aggregate used.

Workability is more precisely defined in this Report and is regarded as a property of the concrete alone. A description is given of a method of measuring workability, called the compacting factor test, which overcomes some of the limitations of the slump test.

For the practising engineer the paper provides a good background of knowledge on designing concrete mixes having specified properties. This subject will, however, be dealt with more fully in "Road Note No. 4—The Design of Concrete Mixes," which will be published in two to three months' time.

Company Registrations in 1946.

THE figure of 24,002 companies for the year 1946 proved to be the greatest total of new companies incorporated in any one year since the commencement of company registration on November 1, 1844. In 1946, a year of outstanding activity, the 24,002 new companies were but modestly capitalised. The average capital per company was £5,304; for private companies alone it was £4,830. The number of building companies formed was 2,420, forming 10 per cent. of the total, the next highest being engineering firms with nine per cent. For the half-year January-June, 1947, the number of new companies was 11,320. Of these engineers accounted for 1,066 (9.4 per cent.), and builders 977 (8.6 per cent.). Of the building companies registered in 1946, five were public companies with a total capital of £56,000, and the remainder were private companies with a total capital of £6,708,480.

A PREFABRICATED TOWN

Grass verges and gardens are a feature of Shrublands Estate, Great Yarmouth, which is believed to be the largest temporary prefabricated house site in Britain. Later, trees and shrubs are to be planted in the roads, which are already named after them.

The estate, which was designed by the Borough Engineer, Mr. H. F. Dyson, M.B.E., M.Inst.C.E., to be used later for permanent housing, consists of 711 Arcon houses. Permanent shops in blocks of four, with three self-contained flats above, and two public-houses, are planned.

Work on the roads of the Shrublands estate began in August, 1945, and the last houses were completed in May, 1947. Components for the houses were delivered by road from the temporary-house distribution centre of Taylor Woodrow Construction, Ltd., at Beddington, near Croydon, and construction by W. Ames, Ltd., of Great Yarmouth, at one time proceeded at the rate of 40 houses a week.

Tenants on the estate have a club in huts placed at their disposal by the contractors, and will later be able to use a community centre to be established on a neighbouring permanent housing estate The Borough Council has a resident welfare officer on the estate, and is encouraging the cultivation of gardens by means of competitions. Tenants are mostly from the bombed area of Yarmouth, with a large proportion of ex-Service men and some 1,400 children.

SHRUBLANDS ESTATE, GREAT YARMOUTH : An aerial view showing the layout.

BUILDING IN BIRMINGHAM

GENERATING STATION AND HOUSING PROJECTS

SINCE the end of the war the Birmingham Electric Supply Department has put in hand a large programme of extensions to the generating stations and to the distribution networks throughout the area of supply.

At Hams Hall " B " Station, which was first commissioned in February, 1942 (the first half being completed at the end of 1945), three further 50,000-kw. turbo-alternators are now in process of erection, thus bringing up the station to a final capacity of 300,000 kw. and making it one of the largest in the Midlands, and alone capable of supplying the whole of the needs of a city the size of Liverpool.

To complete the station two more cooling towers are necessary; these will be of the same design as the original two, having a height of 317 ft. and a total weight of 10,000 tons each.

Extensions at Nechells.

In addition to the programme of extensions at Hams Hall, a new station is being built at Nechells, adjacent to the existing Nechells " Prince's " Station, which was commissioned soon after the 1914-18 War.

The building will be of steel framework construction, and in view of the great weight of the building and machinery it will be necessary to strengthen the ground by piling, in order to support the foundations. There will be two chimney stacks, 350 ft. in height, and three cooling towers, 300 ft. in height, each having a capacity of four million gallons of water per hour. The make-up water to the cooling towers will be river water and also sewage effluent obtained from the Tame and Rea Sewage Works at Minworth by two 18-in. pipelines.

Redevelopment Plans Approved.

Approval of the Minister of Town and Country Planning has now been received to the proposals of the City Council for dealing with the five central areas of Birmingham scheduled for redevelopment.

These areas, known as the Duddeston and Nechells, Summer-lane, Bath-row, Ladywood- and Gooch-street Redevelopment Areas, contain a population of over 110,000 people.

Now, under the Birmingham (Central Redevelopment) Compulsory Purchase Order, 1946, the City Council has authority to acquire the 981 acres of land and the houses and other properties existing upon it, valued, at 1939 prices, at £17,349,000. In a few weeks' time the Corporation will commence making vesting declarations vesting the various properties comprised in the Order into the ownership of the Corporation, coupled with authority to enter and take possession, and will then be able to pull down, repair and manage the properties in accordance with a predetermined programme.

The property thus acquired will come under the control of a new Committee of the City Council known as the Central Areas Management Committee, which will be responsible for the management and repair and the collection of rents of all properties so acquired. Wherever possible, repair work will be carried out to make the houses habitable until they are demolished and alternative accommodation provided.

Until a considerable number of people at present living in appalling conditions in these redevelopment areas have been rehoused no major operations of rebuilding can be undertaken, and the City Council have therefore decided that 25 per cent. of all new permanent houses shall be allocated for the accommodation of persons who will be displaced in the process of clearing portions of the redevelopment areas.

If present anticipations are realised several hundred families will be allocated new homes in the next 12 months, and as a result it will be possible for an early start to be made on the redevelopment schemes.

Small Housing Sites.

Apart from the large housing estates such as are being developed at Shard End, many small sites in various parts of the city are to be acquired for the erection of municipal houses.

A survey has recently been made of small sites in the city which may be suitable for the erection of houses with a view to making the fullest possible use of all available land. Some 200 such sites are at present under consideration, ranging from plots containing just a few hundred square yards suitable for the erection of two or three houses, to larger areas on which twenty or thirty houses can be built.

The City Council has just authorised the acquisition of thirty-two such small sites which will provide accommodation for 231 permanent dwellings.

Aston Hall.

A gas supply in Aston Hall, understood to have been installed over a century ago by James Watt, the son of the famous inventor, is to be used to instal gas radiators in all the main rooms. This forms part of a larger scheme approved by the City Council for the repair and renovation of Aston Hall, regarded as a fine example of early seventeenth-century architecture.

A programme of repair work, estimated to cost £10,000, has been approved, and will be carried out over a period of five years.

A BRICKLAYING INVENTION. High-speed bricklaying, halving the normal time of house building, is claimed by Mr. L. S. Beamish, of Shoreham, Sussex, inventor of a metal guide which supersedes the plumb-line, and ensures correctness of angles. Mr. Beamish is a descendant of Sir Humphrey Davy, inventor of the miner's safety lamp. His apparatus clips on to the top course of bricks, and perpendicular levels and plumb levels keep perpendicular and horizontal positions exact. During carefully timed tests, the inventor laid 100 bricks in half an hour, equivalent to 1,600 in an 8-hour day.

FIXED WEEKLY WAGES FOR BUILDERS?

THE following comments on fixed weekly wages in the building industry are extracts from the current edition of CUBITTS NEWS, issued by Messrs. Holland & Hannen and Cubitts, Liverpool:—

One of the worst features of the Building and Civil Engineering Contracting Industries is the necessity of employing casual labour. Men belong to the industry as a whole rather than to individual firms. . . . It appears to us that very considerable benefits would result if some attempt was made to consider the practicability of employing men at a fixed weekly wage rather than on the present basis of hourly rates. The men would gain a real security, and undoubtedly there would be an overall improvement in the status of all grades. A closer bond would probably be built up between men and their respective employers and eventually a greater sense of responsibility on the part of each individual worker and recognition of obligation to the employers. We have made the experiment on a small scale with certain men and the results more than justify the experiment. We find that there is a mutual increase in confidence and the men soon acquire a much broader appreciation of their part in the organisation. There is a greater sense of loyalty and a much greater willingness to be flexible and to tackle any job which may be required to be done even if it is somewhat outside the individual's normal scope.

ENGINEERING AND ROAD SAFETY

THE CASE FOR DUAL CARRIAGEWAYS

THAT the greatest contribution to safety conditions on our road system would probably be the conversion of a considerable mileage of roads into dual carriageways was one of the principal points made by Mr. A. J. Lyddon, C.B.E., M.Inst.C.E., formerly Chief Engineer of the Ministry of Transport, when he read a paper on "Engineering and Road Safety" at the recent Public Works, Roads and Transport Congress in London.

Mr. LYDDON said the conversion into dual carriageways of the 12 principal approach roads within the Greater London area was estimated to cost £15 million in 1939. Even the enhanced cost of such work would still be justified by way of available contributions to the movement and safety of London traffic. The provision of dual carriageways to increase the traffic capacity of the existing road system would make a considerable contribution to road safety.

Dual carriageways should be constructed where an existing road carries, or a proposed road is expected to carry, 400 vehicles at the peak hour, and will often be justified on less heavily trafficked roads solely on grounds of public safety. Where it is necessary to provide more than two traffic lanes, the construction of dual carriageways, if practicable, is preferable to widening a single carriageway.

The separation of dual carriageways should be effected by a reservation of the greatest width practicable. Endeavour should be made to secure a width of 26 ft. between dual carriageways of 22 ft. and not less than 10 ft. between dual carriageways of 30 ft. in order to provide a dimension of 70 ft. between the outer kerbs, which would enable large vehicles to turn from one carriageway to the other without reversing. Reservations should be planted with low trees or shrubs with the object of avoiding glare from headlights. Where the central reservation is broken to allow of communication from one carriageway to another, complete visibility across the ends of the reservation should be maintained for at least 50 ft. back from each end of the opening. In rural areas the connections necessary between dual carriageways across the central reservation should be kept to the minimum and in no case should be less than 440 yds. apart. In built-up areas, and particularly in shopping centres, this dimension may have to be reduced.

Road Widths and Traffic Lanes.

In ordinary circumstances the minimum effective width of the highway required to accommodate the proposed layout would be as follows :—

Proposed Layout	*Minimum Effective Width to be adopted*
Single carriageway not exceeding 30 ft. with footpaths	60 ft.
Single carriageway not exceeding 30 ft. with footpaths and cycle tracks	80 ft.
Dual carriageways (each of two traffic lanes) with footpaths but no cycle tracks	80 ft.
Dual carriageways (each of two traffic lanes) with footpaths and cycle tracks	100 ft.
Dual carriageways (each of three traffic lanes) with footpaths but no cycle tracks	100 ft.
Dual carriageways (each of three traffic lanes) with footpaths and cycle tracks	120 ft.

Whilst the foregoing concerns the construction of new roads, there is no question that the widening of some existing roads to make provision for a minimum width of 30-ft. carriageway with footpaths would make a valuable contribution not only to the traffic capacity but to improved conditions throughout the country. Although the single carriageway must be considered inadequate on an all-purpose road where its traffic intensity approaches 400 vehicles per hour, there are many miles of road where the traffic volume is unlikely to reach such a figure, and where the capacity of the carriageway caters for large volumes of tidal and other traffic. It is thought that many miles of first-class roads, if widened to a dimension of 30 ft., would increase the traffic capacity of our road system at a cost commensurate with increased safety, whilst not proving as costly as the provision of dual carriageways.

Diversity of opinion exists in regard to the "laning" of an all-purpose carriageway where the width permits of the marking of three lanes. It must be admitted that under heavy traffic conditions the frequent use of the middle lane by opposing streams of traffic is fraught with risks of collision where such conditions call for dual carriageways. On the other hand, where "tidal" traffic (*i.e.*, for special events such as races, etc.) has to be considered on roads of medium traffic volume the three-lane carriageway possesses considerable merit and capacity. Such roads may offer little justification for conversion into dual carriageways, particularly when the normal volume is relatively low and the speed not in excess of the normal.

Refuges.

Despite the fact that refuges are not generally viewed with favour by drivers of vehicles, they add materially to the safety of pedestrians when crossing carriageways, even where there are no pedestrian crossings provided, and particularly where the number of pedestrians is great their use is to be encouraged. The distance between the edge of the refuge and the kerb on the nearside should not be less than 20 ft.

The material of construction and the finish of the surface of cycle tracks should be no less superior to that of the adjoining carriageway. Unhappily, there is still some prejudice against the use of cycle tracks, and this may be largely due to the relatively small mileage which has been constructed. They do, however, provide an element of safety by their segregation from faster moving traffic on the carriageways, and it is to be hoped that their relatively low cost of construction will encourage their greater use, particularly where cycle traffic forms a high percentage of the total volume of traffic on an all-purpose road with a single carriageway.

Controversy has arisen from time to time on the pros and cons of high kerbs versus low kerbs, or even no kerb. In general, opinion seems to have consolidated to the wisdom of providing kerbs of small depth with splayed or chamfered edges on all roads in urban areas. In rural areas an excellent practice has developed in the provision of a channel of a distinct colour and texture which forms a combined abutment and drainage facility with the edge of a grass margin forming the protective element between carriageway and margin and/or footpath.

Safe Design.

The exclusion of all but one class of road user (the motor vehicle driver), together with the prohibition of access on the frontage of motor roads, will relieve those existing roads which are by-passed of much of their through traffic. It must not, however, be supposed that the element of risk on the existing roads will be eliminated for public service vehicles and local originating traffic will continue to use these existing roads. It will be of interest to note the reaction of the average Briton to his exclusion as a pedestrian and cyclist from the proposed one-purpose road—an exclusion which must be rigidly enforced if the motor road is to perform its designed functions. In America it has been found that the greatest safety of a modern motor road appears to lie in its elimination of the pedestrian problem. In can give the greatest safety advantage, therefore, where the pedestrian is an important factor, that is, in suburban and urban areas.

It is perhaps unnecessary to stress that the standard of design adopted for the improvement and maintenance of any highway system should be developed with safety as the primary factor. Every attention must be given to methods of protecting the pedestrian, not only because he forms the largest class of road user but because we are all pedestrians at some time of the day or night. Many contributions to safety can be made in the execution of highway maintenance. There is no great degree of permanence in a highway. It should undergo constant changes of form and shape to accord with changing conditions of traffic. Errors of omission and commission in original construction can be corrected by intelligent maintenance work.

All the road surfaces need to be kept uniform and free from corrugations and slipperiness. Such road furnishings as signs, signals, lane markings and guard rails all require to be kept in good condition. Experience in the early weeks of 1947 provided another reason—if one was wanting—of the need to make emergency maintenance provisions for the safety of road users in areas where frost, snow, ice and floods, or other weather conditions, demand a preconceived plan which must be ready in advance. Such a programme includes systematic weather forecasts, disposition of snow and ice equipment and periodic relief of personnel, together with emergency traffic warnings of road conditions, etc. All these factors may be said

to be embraced in the many contributions which the highway engineer can make to reduce the risk of accident to all road users.

Road Surfaces.

Concluding, Mr. Lyddon said that perhaps the most significant contribution to safety which can be made by the highway engineer in the day-to-day use of roads is in the care and maintenance of the surface of the carriageways. For town and city streets, close-textured material providing a sand-paper finish will cater for the slower and intense traffic conditions. The use of rubber paving of well-proven quality must not be overlooked for city streets despite its high initial cost. Outside populous centres, where speeds are higher—roads are best maintained by more open-textured material, which combines uniformity with non-skid rugosity and waterproof qualities, yet not too open to encourage disintegration by frost or snow. It is not to be expected that one method or material will fill the variety of conditions demanded in the maintenance of our road system.

BUILDING MATERIALS AND COMPONENTS

EMERGENCY NEEDS OF WATER UNDERTAKINGS

CIRCULAR 143/47 recently issued by the Ministry of Health refers to Circular 140/47 and to paragraph 25 of the explanatory memorandum enclosed with that Circular, from which it will be seen that the arrangements dealt with in Circular 135/46 of June 25, 1946, for meeting the emergency needs of water undertakings by means of a blanket materials priority certificate to cover their essential day-to-day repair and maintenance work and their responsibility for providing a water supply to new houses or other buildings, will be continued.

Circular 143/47 goes on to state that the certificate given in any particular quarter will be based upon the materials *actually used* during the preceding quarter, whether drawn from store or purchased directly from suppliers. In submitting their requirements to the Minister, the undertaking should have regard to the revised list of materials and components set out in paragraph 1 of the explanatory memorandum. It is important to note that materials needed for a project to which paragraph 11 of Circular 140/47 applies, *i.e.*, a project which requires authorisation by the Minister under the Defence Regulations, must be excluded.

The materials needed by an undertaking for essential repair and maintenance work or for supplying property with a water supply should normally include only a limited number of items to which the revised priority distribution scheme applies.

As regards lead sheet and pipe within the categories given in paragraph 1 of the explanatory memorandum, undertakings should include in their application for a blanket certificate the actual amounts used during the preceding quarter. On receipt of the authorised certificate, the undertaking should locate their own source of supply, but if they are unsuccessful in obtaining the lead sheet or pipe required, the United Kingdom Lead Manufacturers' Association, of Eagle House, Jermyn-street, London, S.W.1, will do everything possible to assist. The Association would require to know the names and addresses of the undertaking's usual suppliers, and also the names of any other firms who have been approached by the undertaking.

The special form of priority certificate to be used is issued with the Circular.

LAW REPORT

SUCCESSFUL APPEAL BY THE MINISTER OF HEALTH

COURT OF APPEAL.

BEFORE THE MASTER OF THE ROLLS AND LORDS JUSTICES COHEN AND ASQUITH.

Ministry of Health v. Johnson

In the Court of Appeal, High Court of Justice, the Master of the Rolls and Lords Justices Cohen and Asquith held, in an appeal by the Minister of Health from a decision by a King's Bench Judge (Justice Henn Collins), who quashed a compulsory order for the purchase of land, that the Minister was not bound to disclose information he received whilst acting in his administrative capacity, and restored the compulsory Order.

The Minister of Health sought to acquire a 15-acre plot of land at St. John's-road, at Huyton-with-Roby, on behalf of the local authority, under the Compulsory Purchase Order of 1945. This was opposed by R. Johnson and Co. (Builders), Ltd. The Minister had made an Order for the acquisition of the land, and the builders challenged that decision.

Mr. Justice Henn Collins quashed the Order on the grounds that on controversial issues the Minister had not disclosed certain information he had, and that he had been misled.

After legal argument the Court allowed the appeal.

The Master of the Rolls, in giving judgment, said in this case no local public inquiry had been held, but an informal inquiry had been directed, and to this no formal objection had been made. So far the proceedings were in order, subject only to the question whether the Minister's Order had been invalidated by the failure to produce certain correspondence that had passed. In this matter the Minister was not limited to material contained in the objections or to objections by the objectors or the local authority. Here the question was one of housing for the working classes, and it would be absurd to say that in considering Compulsory Purchase Orders there must be excluded from the Minister's mind information which came to him in the way it did in this case. The idea that the Minister could be compelled to disclose information which he had obtained in an administrative capacity, and not in a quasi-judicial capacity, was, he thought, alien to the general conception of government in this country.

In all the circumstances of this case, he came to the conclusion that the statements objected to having come into the possession of the Minister whilst he was acting in his administrative capacity, and prior to his having to consider it quasi-judicially, the Minister was under no obligation to disclose them to the objectors.

The Lords Justices Cohen and Asquith concurred, and the appeal was allowed with costs, the compulsory Order being restored.

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SCOTTISH OFFICE OF D.S.I.R.

OPENED IN EDINBURGH

THE Department of Scientific and Industrial Research has opened a Scottish office at 18, Melville-street, Edinburgh, to facilitate closer contact with Scotland. The office will have a dual function—to encourage the prosecution of research by industry itself, and to increase the effectiveness of the contribution which existing Government research establishments make to Scottish industry.

The new office will co-operate with the Departments of the Secretary of State for Scotland, with the organisations in Scotland of other Government Departments, and with voluntary bodies such as the Scottish Council (Development and Industry). It will also study the Scottish industrial position with a view to assisting in the formulation of problems suitable for research. The office will apply existing research facilities as effectively as possible to Scottish needs.

It will also provide means of encouraging contacts between Scottish firms, the D.S.I.R. Laboratories and the Research Associations, and will help to make more readily available in Scotland a large volume of scientific information already existing within the D.S.I.R. organisation.

The importance of the contribution research can make to industrial progress will be brought to the notice of those concerned, and advice will be available to firms wishing to build up their own research units. The office will take appropriate steps to ensure that the discoveries in pure science which may be capable of industrial application are not overlooked, and that opportunities for new developments are not missed.

Dr. H. Buckley will be in charge of the office. A graduate of Manchester University, he was on the staff of Toronto University before serving for 25 years on the staff of the National Physical Laboratory, where his special field of research was concerned with photometry and illumination. During World War II he was for a time a liaison officer in the British Commonwealth Scientific Office in Washington, and during the last three years was a member of the Intelligence Division at the Department's headquarters.

BUILDING OPERATIVES TO SHARE PROFITS

BEDFORDSHIRE FIRM'S SCHEME

At a dinner held recently at Woburn Sands, Beds, by Messrs. Ellis T. Amos, Ltd, building contractors to the Leighton Buzzard and Linslade Urban District Councils, Mr. Amos, managing director of the Company, outlined a bonus scheme, devised by himself, which started on September 1.

He said that at the end of each month a certain percentage of any profit would be paid into the bank for each and every one, irrespective of his job, to share equally, and a slip would be placed in each man's wage packet at the end of each month stating how much had been placed to his credit. The account for the bonus scheme would be entirely separate from the firm's account.

The scheme would be applicable to every man after he had worked one month on the site for the firm. In the event of a man leaving voluntarily, he would be paid 50 per cent. of his accrued bonus, and the other 50 per cent. would be divided among the other men. If a man was sacked for any misdemeanour, the question as to whether he would lose 50 per cent. or 100 per cent. of his bonus would be decided by a committee which would include the men's own representative. If through no fault of his own, or the firm's, it was found necessary to dispense with a man's services, he would lose nothing at all; bonus to date would be paid to him. Payment would be made twice a year, one payment before Christmas and the other at the end of June. The first payment to be made would be at the approaching Christmas.

Mr. Amos subsequently made it known that the percentage tried in respect of the first month's working of the bonus scheme was 10 per cent. of the gross profit as shown on their costing for this contract, which was taken monthly, and which worked out at approximately just under 20 per cent. of the net; thus the overheads for the contract at the moment were about 10 per cent.

The committee, comprising the secretary, the site agent and the representative of the men, would have, in his (Mr. Amos's) presence, access to all relevant figures and other information, as he felt sure that it was only by such acts of mutual trust that such schemes could be successfully worked.

Shopfitters' Risk.

Shopfitters, despite the "Standard Conditions of Trading of the National Association of Shopfitters," have hitherto been compelled to shoulder the risk of glass breakage from the time the material leaves their warehouses until safely installed in the customer's premises. The Guardian Assurance Co., Ltd., of 68, King William-street, London, E.C.4, have now, however, evolved an insurance policy which does, in fact, give complete security. A shopfitter buys cover at 20s. per £100, and having taken out a policy for, say, £1,000, uses up that cover as he wants it during the 12 months. Just before he is ready to start a "job" he notifies the company: (a) the address; (b) how much cover he requires; and (c) the date from which cover is desired. He need not notify all jobs, but can select those where he considers it worth his while to have insurance. He will receive a full return of premium for any cover not expended during the 12 months, or alternatively, can, at any time, buy more cover as required. The insurance for each "job" lasts for 21 days, but can be extended up to a maximum of an extra 90 days by using up additional cover, but only to the extent of the amount for the original 21 days.

L.M.B.A. NEWS

Painting Prizes.

The L.M.B.A. prizes for painters' and decorators' work in the City and Guilds of London Institute examinations for this year have been won by Kenneth James Breese and Charles Allen Hart, both of whom are students at the L.C.C. School of Building, Brixton.

L.M.B.A. Golf.

The L.M.B.A. Golfing Society is holding its autumn meeting at the Stoke Poges Golf Club on Tuesday, September 23. In the morning a stroke competition will be played, and in the afternoon a better ball four-ball -v- bogey. There will be optional sweeps on both events. The first annual general meeting of the Society will be held in the Club House at Stoke Poges, at the end of the day's play, at approximately 6 p.m. Additional particulars from the Hon. Secretary, Mr. D. F. Cox, c/o Haymills (Contractors), Ltd., Empire House, Hanger Green, W.5.

Apprentice Scholarship.

The London Master Builders' Association scholarship for the higher education of building trades apprentices, won by Ronald W. Russell, a registered apprentice with Messrs. J. and R. Rooff, Ltd., East Ham, is to be presented by the Chairman of the Building Apprenticeship and Training Council, Sir George Gater, at Lambeth Bridge House, on Thursday, September 18. The scholarship is for £200 a year for three years, and Mr. Russell will start a full-time course for a Higher National Diploma at the L.C.C. School of Building, Brixton, next term. Special interest attaches to the fact that the successful apprentice comes from the firm of Rooff, for Mr. J. H. Rooff, its Chairman, is a former President of the L.M.B.A. He was President in 1935.

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THE BUILDING EXHIBITION AGAIN

FROM A CORRESPONDENT

It is at least heartening to hear of preparations being made for the Building Exhibition, to be held from November 19 to December 4 this year. Before the war the exhibition was the major event of the building year; it was here that so many new ideas (and old ones in new guises) were brought before the eye of the building world, and it has always been a show distinctive for its energetic outlook.

This year plans are afoot to include a number of what one would call "non-commercial" exhibits. The Grand Hall Gallery is to house at least three well-known organisations for the purpose of explaining to the public their aims and method of work. These three will be the Department of Scientific and Industrial Research, the Council of Industrial Design, and the London Brewers' Council. The last-named will endeavour to "point the way to better pubs." (some might well say—never mind the pubs., how about the beer?).

Clubroom in Gallery.

The R.I.B.A. will have a club-room in the Gallery, and there will also be three exhibitions within the exhibition —first, "Europe Renewed," which will show photographs and models of the re-construction work now being carried out in Belgium, Czechoslovakia, Holland, Norway and Poland. Second, "This was London," which will consist of a collection of pre-war sketches and drawings of the best of London's architecture (this exhibit seems an excellent idea, for London as seen through the eye of the artist can be very charming). Lastly, there is to be an exhibit called "Slum Conditions," which will, among other things, present life-size models of (a) a slum backyard of around the 1910 era, and (b) a small garden *as visualised* by the L.C.C. in 1950. It is open to question whether the construction of the 1910 type is worth while; heaven knows, there are still far too many of them around in real life, and the "as visualised" part is in itself some form of confession that we are still in the "future" stage of improving in a large-scale fashion on what happened quite a long time ago.

Perhaps this kind of thing is introduced for the laymen, but plenty of laymen know only too well the facts of slum conditions. For architects, especially when building has almost arrived at a standstill, such a comparison can appear outmoded only in its inference and object. Anyway, here's to 1950—would that it were 1947! Nevertheless, any gesture of this sort is better than none, and this year's building exhibition promises us many diverting new features. Even if we cannot build, we can at least realise that the industry is doing its level best to keep on its toes until the arrival of the Great Day.

TRADE NEWS

Softwood Prices.

A comprehensive list of principal softwood, plasterboard, insulation, hard and laminated board prices has been published by the Phœnix Timber Co., Ltd., Frog Island, New-road, Rainham, Essex.

Telephone Number Change.

Messrs. Burtain, Ltd., contractors in flooring and plastering, 2, Red-place, Green-street, Grosvenor-square, W.1, announce that their telephone numbers are now Mayfair 1844-8.

NEWS ITEMS

Renovation Work on the Underground.

The L.P.T.B. are to renovate six underground stations—Piccadilly Circus, St. James' Park, Holborn, Edgware-road, Golders Green and Boston Manor. The work will include complete repainting, redistempering and incidental essential repairs. Work will be started on all stations within the next few weeks, and it is hoped to complete it by the end of the year. More stations will be renovated in 1948.

Building Science Abstracts.

The Department of Scientific and Industrial Research have published the following publications compiled by the Building Research Station, Watford:—Building Science Abstracts, Vol. XIX (New Series), No. 12, December, 1946, Abstracts Nos. 1535-1681, price 1s. 6d. net; Building Science Abstracts, Vol. XX (New Series), No. 3, March, 1947, Abstracts Nos. 301-449, price 1s. 6d. net. Copies are obtainable from H.M.S.O., York House, Kingsway, W.C.2.

Hammersmith School of Building.

Enrolment week at the Hammersmith School of Building and Arts and Crafts, Lime-grove, Shepherd's Bush, W.12, is from September 15 to 19, inclusive. The opening date for evening classes is September 22. The school is making special provision to cope with the large number of men and youths who desire training for the building industry. Classes are organised for part-time day release students, evening students and full-time day students covering all subjects associated with the industry and art professions.

Certificates for Craftsmen.

Following widespread adoption of the model Indenture prepared by the Education and Apprenticeship Committee of the Gauge and Tool Makers' Association, the Council has decided to award under certain conditions a special certificate to craftsmen in the precision gauge and tool industry. This certificate, which will be attractively designed and printed on hand-finished paper, will bear the Association seal and the signatures of the various officers. Applications for award of the certificate will be considered from toolmakers who (*a*) have served a *bona-fide* apprenticeship with a member of the Association, and (*b*) have passed the Final Examination of the City and Guilds of London Institute Machinists', Turners', and Fitters' Course. Further particulars are available on application to the Secretary, The Gauge and Tool Makers' Association, Standbrook House, Old Bond-street, London, W.1.

A Twenty-first Anniversary.

To commemorate the 21st anniversary of the foundation of the Research Association of British Paint, Colour and Varnish Manufacturers, an "Open Week" and Exhibition is to be held at the Paint Research Station, Waldegrave-road, Teddington, during the course of which extensions to the present buildings will be formally opened by Sir Edward Appleton in the presence of distinguished visitors. The laboratories will be open for the exhibition from Tuesday, September 23, to Friday, September 26. The Research Association was founded in 1926 for the purpose of applying the methods of scientific investigation to the problems of the group of related industries, embracing paint, colours, varnish, printing ink, linoleum, and coating compositions generally. This object has been achieved at the Paint Research Station in a variety of ways; by library, information bureau and liaison work, discussions and lectures, through technical inquiries and chiefly by experimental investigation carried out in the laboratories.

Building Operatives' Journal.

The first edition of a new series of "The Operative Builder," the bi-monthly journal of the National Federation of Building Trades Operatives, has recently been published. It covers a wide field of building activity and includes notes on statutory holiday payment, payment by results, the Building Apprenticeship and Training Council and temporary houses. An interesting graph gives salient features of the number of permanent houses completed in England and Wales up to June, 1947, by (a) local authorities; (b) private builders under licence; and (c) the rest. Also recorded is the retirement, after 29 years as General Secretary of the National Society of Painters, of Mr. J. A. Gibson.

Rebuilding in Manchester.

The works in which Charles Macintosh founded the world's rubber industry more than one hundred years ago are, subject to agreement on details with the city authorities, to be rebuilt in harmony with the proposed new Civic Centre on the other side of Cambrige-street, Manchester. Under the city's town planning scheme certain of the old buildings would have to be demolished to allow the road to be widened from 45 to 110 ft. and part of the neighbouring site of the Gaythorn gas works would therefore be allocated to Dunlop for the new modern building now being planned. To allow production to continue during reconstruction, building is planned on a stage-by-stage basis over a period of years.

British Commonwealth Leads in Copper Production.

The British Commonwealth, according to the current issue of the Bulletin of the Copper Development Association, now leads the world in the production of copper, the annual output being approximately 700,000 short tons, compared with 604,000 short tons, the next largest output, produced by the U.S.A. "The consumption of copper continues to increase," the Bulletin states. "For 1946 it averaged 27,100 tons a month in this country, compared with 24,100 tons in 1945 and 21,500 tons in 1938. The American demand is extremely heavy and cannot be satisfied by domestic production, with the inevitable result that competition for supplies outside the United States is severe."

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"Teach Yourself" Building.

The story and the scope of the "Teach Yourself" scheme are given in a booklet written by Mr. R. W. Jepson, M.A., and recently published by The English Universities Press, Ltd., London, at 1½d. Details are given of the "Teach Yourself" building facilities contained in a first series of ten books, each one a complete course, written by well-known authors of works on building methods and practice, and planned by Mr. E. G. Warland, M.I.Struct.E., Head of the Building Department at Liverpool Technical College.

A Hundred Years of Building.

Messrs. F. Rendell and Sons, Ltd., building and civil engineering contractors, of Devizes, Wiltshire, celebrate their centenary this year. The firm was founded in 1847 by William Rendell at premises at 29, St. John-street, Devizes, and since then its history has been one of continuous development and progress. Highly skilled craftsmanship has been the constant watchword of the company in every task it has undertaken, and an illustrated brochure recently published to commemorate the centenary gives an impressive selection of buildings for which Messrs. F. Rendell have been responsible. These include churches, schools, hospitals, banks, factories, agricultural buildings, inns, large and small houses and a number of engineering and water supply installations. The brochure also records an acknowledgment of the skill, personal interest and consistent loyalty and goodwill of staff and craftsmen, whose pride in their work is reflected in their achievements.

BUILDING INDUSTRY AND INCENTIVES

EMPLOYERS' EXECUTIVE EMPOWERED TO NEGOTIATE SETTLEMENT

At its September meeting in London on Wednesday last, the Council of the National Federation of Building Trades Employers further considered the suggestions on wages and incentives which were made to both sides of the industry by the Minister of Labour on July 17.

The Council noted that the outcome of the Operatives' ballot will not be known until towards the end of the month, and in view of the rapidly changing conditions of the day, including the possibility that in the near future information might be forthcoming on the effect of the economic crisis on the building industry, it decided to leave the whole question in the hands of its Executive Committee, with full power to negotiate a settlement in the light of the Council's discussion.

OFFICIAL NOTIFICATION

Door Stock and the Present Shortage.

The Ministry of Works announces that the distribution and use of Door Stock (Douglas Fir normally selected, sawn to sizes, and imported for dowelled door manufacture) has been reviewed in the light of the present shortage. The following arrangements, which are in accordance with recommendations made by the representatives of the joinery industry, will be put into operation until further notice:—

(1) Door Stock may only be used for the manufacture of dowelled panel doors to British Standard specification;

(2) Door Stock will be sold to consumer licence-holders in parcels of a minimum of 20 standards or a complete bill of lading, whichever is the smaller.

Applications for the special release of Door Stock will continue to be made to the Board of Trade, Timber Control Area Offices.

THE SCOTTISH BUILDER

NEW BUILDINGS

Caldercruix.—New building for Milk Department, boiler house, etc., proposed, for which the architects are George Arthur & Son, Stirling-st., Airdrie.

Falkirk.—Dean of Guild Court granted warrant to Falkirk Iron Co., Graham's-rd., for erection of workmen's baths, change-rooms and suite of offices at £24,000.

Falkirk.—Permission granted to Falkirk and District Co-operative Society to make additions to bakery at Dalderse-ave. at £9,000.

Glasgow.—Alterations and additions proposed at Oakfield-ave., for which the architect is Charles Ewan, 19, Waterloo-st., Glasgow.—At Port Dundas, Crowley, Russell & Co., Ltd., 16, Blythswood-sq., are to carry out alterations and additions.

Glasgow.—Dining department, etc., proposed at Montrose-st., for which the architect is J. MacNab, 129, Bath-st., Glasgow.—Alterations and additions, including new storey, for J. Taylor (Trongate), Ltd., for which the architect is J. Watson, 35, Quarryknowe-rd., Glasgow.—Ice cream factory proposed, for which the architects are MacNair, Elder & Ridley, 529, Sauchiehall-st., Glasgow.

Lanarkshire.—New miners' welfare pit baths proposed, for which the architects are the Miners' Welfare Commission, 24, Royal-cres., Edinburgh.

Plains.—Ice cream factory buildings proposed at Main-st., for which the architect is J. McLachlan, 95, Craig-st., Blantyre.

Scotland.—William Murray & Co., Ltd., brewers, propose reconstruction and extension of Craigmillar Breweries, Edinburgh, at £133,000, and new public-houses at Easthouses, Newtongrange, and Holytown, at £42,000. Plans by W. N. Thompson & Co., Hope-chbrs., Leith-walk, Leith.

FUTURE CONSTRUCTION

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

SEPTEMBER 18.

†Hitchin R.D.C.—54 Airey houses and site works at 7 sites. W. E. Potter, C. Dep. £2 2s.

SEPTEMBER 19.

†Lexden and Winstree R.D.C.—(a) 6 pairs of houses at Tiptree; (b) 4 pairs of houses at Dedham; (c) road and sewer at Dedham. Duncan Clark and Beckett, architects, 7, West Stockwell-st., Colchester. Dep. £3 3s.

Llandilo R.D.C.—14 houses, with sewer, footpath and kerb, at No. 2 site, Waterloo-rd., Penygroes. Council Offices. Dep. £2 2s.

SEPTEMBER 20.

†*East Ashford R.D.C.—12 houses at Blind-la., Challock, and 16 at The Street, Godmersham, together with site works, roads and sewers. Jackson and Jackson, 13, North-st., Ashford.

†Sleaford.—20 houses at Raucesby Mental Hospital estate. C. B. Metcalf, Architect, County Offices, Sleaford.

SEPTEMBER 22.

Barmouth U.D.C.—32 Airey houses, with site works, drainage, etc. S. Dep. £2 2s.

East Ham C.B.—Conversion of existing building into community centre. B.E. Dep. £2 2s.

Huntingdon C.C.—Kitchen and dining-room for Eynesbury C. of E. School, St. Neots. T. H. Longstaff, County S. and A., Walden House, Huntingdon.

St. Albans R.D.C.—22 houses at Shenley-la., London Colney. Architect and S., 43, Upper Lattimore-rd.

Sodbury R.D.C.—(a)* 16 Airey houses at Woodman's-rd., Chipping Sodbury; (b) roads and sewers and site works at same; (c) 6 Airey houses at Old Sodbury; (d) 4 traditional houses at Westerleigh. S. Dep. £2 2s.

South Westmorland R.D.C.—8 Airey houses and site works at Stainton. E. Middleton, 1, Queen-st., Lancaster. Dep. £2 2s.

Walsall C.B.—Site levelling and laying of sewers at Alumwell-rd. B.E. and S. Dep. £3 3s.

SEPTEMBER 23.

Elham R.D.C.—4 pairs of Airey houses at Woodlands-rd., Lyminge. Council Offices. Dep. £2 (extension of date).

Hants C.C.—Infants' school at Portchester. S. Low, County A., The Castle, Winchester. Dep. £1 1s.

PRICE INCREASES

CORNISH SLATES.

The Minister of Works has authorised an increase of 15 per cent in the present selling prices of Cornish slates, to operate from September 1. The increase in price arises mainly from an increase in wages to workers in the industry.

STANDARD PANELLED WOOD DOORS.

Following an increase in the price of imported plywood, as a result of the Timber Control Order No. 48, dated July 29, the Minister of Works has authorised an increase of approximately 12½ per cent. in the prices of Standard Panelled Wood Doors. The increase will operate from September 1.

SHEET LEAD AND LEAD PIPE.

In order to cover increased costs, an advance in the price of sheet lead and lead pipe, approved by the Ministry of Supply Accountant, came into effect as from 8 a.m. on September 1, and the new basis prices for 2-ton lots are as follows:—

	Per cwt. s. d.
Sheet Lead	107 9
Lead Pipe	109 0

Less 2½ per cent. for cash monthly discount—subject to the usual schedule extras.

Manchester T.C.—(1) Removal of shelters and reinstatement at Crossacre County Primary School, Moston Fields County Primary School and St. Mary's Voluntary C.E. Primary School; (2) repair of war damage at Old Moat County Secondary School, Withington. City A. Dep. £1 1s. each.

Wells (Somerset) R.D.C.—6 houses at Priddy. R. W. Vallis, architect, 6, North Parade, Frome. Dep. £2 2s.

SEPTEMBER 24.

Newcastle-upon-Tyne T.C.—Temporary additional dining accommodation at Nurses' Home, Newcastle General Hospital. City A.

Stroud U.D.C.—18 houses at Ebley. E. and S.

SEPTEMBER 25.

Berkshire C.C.—1 pair of police houses at Cookham. County A., 35, Bath-rd., Reading. Dep. £2 2s.

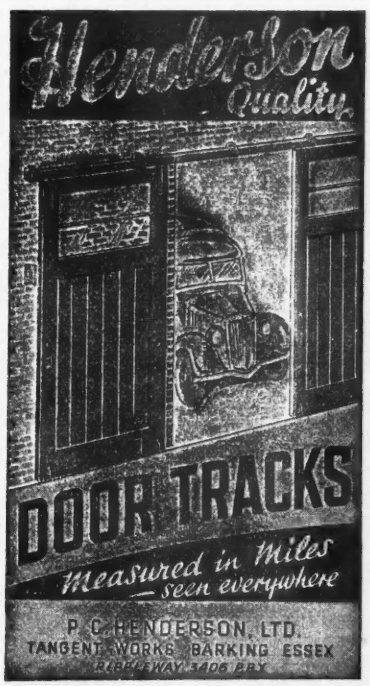
Hants C.C.—Pair of gardeners' cottages at Chandlersford Sanatorium. S. Low, County A., The Castle, Winchester.. Dep. £1 1s.

SEPTEMBER 26.

Seaford U.D.C.—26 bungalows at Chyngton-ave. C. G. Thompson, E. and S. Dep. £2 2s.

SEPTEMBER 27.

***Barking T.C.**—War damage repairs at 41, East-st. T.C. Dep. £2 2s.



***Beds. Standing Joint Committee.**—6 police houses with offices at 6 sites. County A., Shire Hall. Dep. £2 2s.

†*East Sussex C.C.—Rebuilding and completion of unfinished works at Wadhurst Senior School (Sparrows Green). E. A. Verger (F.), County A., County Hall, Lewes. Dep. £3 3s.

†*Epping U.D.C.—4 pairs of houses at Centre-close. C. Dep. £2 2s.

Gt. Yarmouth C.B.—Alterations, addition of kitchen block, nursery play area and redecoration at Cobholm Senior School. B.E.

Mildenhall R.D.C.—14 Airey houses and site works. Scott and Johnson, 5, Cornhill, Bury St. Edmunds. Dep. £1 1s.

SEPTEMBER 29.

Cowbridge T.C.—10 houses at the Limes site. E. Loveluck, 12, Dunraven-pl., Bridgend.

Penryn T.C.—(a) 17 houses; (b) 13 flats for old people; (c) roads and sewers, Saracen estate. T.C. Dep. £2 2s.

Stockton-on-Tees.—22 Airey rural houses off Fairfield-rd. Boro' A. Dep. £2 2s.

SEPTEMBER 30.

North Cotswold R.D.C.—(1) 10 houses at Chipping Campden-Littleworth site; (2) road works at same site. G. Pemberton (F.), Farncombe House, Broadway, Worcs. Dep. £2 2s.

OCTOBER 1.

Hampshire C.C.—Adaptation of Park House, Gosport, as a hospital. S. Low, County A., The Castle, Winchester. Dep. £1 1s.

OCTOBER 2.

***Huntingdon R.D.C.**—13 pairs of houses at 5 sites and 3 pairs of bungalows at 2 sites. Parkinson and Doe, architects, Montagu House, Huntingdon. Dep. £2 2s.

OCTOBER 3.

Blaby R.D.C.—146 houses (twelve groups) at various sites. E. and S. Dep. £2 2s.

OCTOBER 4.

Stanley U.D.C.—24 houses at Lime Pit-la. estate. E. and S. Dep. £2 2s.

Wycombe R.D.C.—Conversion of 2 cottages into 1 dwelling at Horns-la., Booker. J. M. Smith (F.), M.Inst.Mun.E., Architect and S., 28, High-st., High Wycombe.

OCTOBER 7.

Cumberland C.C.—2 pairs of police houses at Penrith and 2 pairs at Keswick. County A., Carlisle.

***Marlborough and Ramsbury R.D.C.**—8 houses at Aldbourne. Bothams and Brown, 32, Chipperla., Salisbury. Dep. £3 3s.

***Salford T.C.**—Alterations and extensions to X-ray dept. at Hope Hospital. City E. Dep. £2 2s.

***West Wales Joint Board for the Mentally Defective.**—Male villa of 50 beds at Pantglas Institution, Llanfyndd, Carmarthenshire. W. T. Lloyd (A.), County A., County Offices, Spilman-st., Carmarthen. Dep. £3 3s.

Windermere U.D.C.—34 houses at Oldfield estate. Walker, Carter and Walker, architects, Crescent-rd., Windermere. Dep. £2 2s.

OCTOBER 8.

***Newent R.D.C.**—10 houses, with footpaths, fences, sewers, sewage disposal plant, etc., at 3 sites. Edwin T. Wraight, 18, Orchard-st., Bristol, 1. Dep. £2 2s.

Stretford B.C.—Additional lavatory accommodation, Town Hall. A. H. Perry, B.E. Dep. £2 2s.

OCTOBER 13.

Solihull U.D.C.—Erection of Hatchford Brook Junior School and Ulverley Junior School. W. Maurice Mell, C.

Tees Conservancy Commissioners.—Two reinforced concrete jetties, Teesport. Messrs. Rendel, Palmer and Tritton, 55, Broadway, Westminster, S.W.1. Dep. £20.

OCTOBER 14.

***Hatfield R.D.C.**—24 houses at 3 sites. J. H. Parker (A.), North-pl., 82, Gt. North-rd., Hatfield. Dep. £2 2s.

***Hatfield R.D.C.**—12 Airey houses at Northaw-rd. West. J. H. Parker (A.), North-pl., 82, Gt. North-rd., Hatfield. Dep. £2 2s.

OCTOBER 16.

***Calne and Chippenham R.D.C.**—8 Airey houses at Martins Croft, Colerne. Walter Rudman and Edwards, 32, Market-pl., Chippenham, Wilts. Dep. £2 2s.

MISCELLANEOUS

OCTOBER 16.

***St. Marylebone B.C.**—Demolition and removal of approx. 90 brick and concrete domestic shelters. B.E. and S. Dep. £2 2s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

SEPTEMBER 22.

†Dewsbury C.B.—B.E. (Materials.)

ROADS, SEWERAGE AND WATER WORKS

SEPTEMBER 20.

Keynsham U.D.C.—Widening of section of Pixash-la. S. Dep. £2 2s.

SEPTEMBER 22.

Alnwick R.D.C.—Roads and sewers at Craster and Embleton. Reavell and Cahill, architects, Alnwick.

Haverfordwest T.C.—Site preparation at Jury-la. B.S. Dep. £2 2s.

King's Lynn Docks and Railway Company.—Reconstruction of Estuary road. Gen. Manager.

Leiston-cum-Sizewell U.D.C.—Roads, sewers, water mains, etc., at Grimsey-rd. S. Dep. £2 2s.

SEPTEMBER 23.

Bristol T.C.—Roads and sewers at Brislington Trading Estate. City E. Dep. £2 2s.

SEPTEMBER 24.

Eton U.D.C.—Making up Tilstone-ave., Eton Wick. E. and S. Dep. £2 2s.

Worsley U.D.C.—Provision, laying and jointing of approx. 1,813 yds. of rising main. Ward and Ashcroft, 38, The Temple, Dale-st., Liverpool, 2. Dep., £5 5s.

SEPTEMBER 26.

Ealing T.C.—Making-up of private streets. B.E. Dep., £3 3s.

SEPTEMBER 27.

Burnley R.D.C.—Laying approx. 1,900 yds. of 6-in. dia. spun-iron screwed gland water pipes at Cliviger. Engineer's Office, Reedley. Dep. £2.

Mitford and Launditch R.D.C.—Site works at Titleshall and Great Dunham. H. Marsh (L.), 14, King-st., King's Lynn. Dep. £2 2s.

SEPTEMBER 29.

Harpenden U.D.C.—Roads and sewers at 2 sites. E. and S. Dep. £2 2s.

Lancs. C.C.—Construction of pedestrian subway under Liverpool-Leeds-Hull trunk-rd. A580 at Swinton and Pendlebury. County S. and Bridgemaster. Dep. £2.

SEPTEMBER 30.

Bradfield R.D.C.—Construction of stoneware sewer and sewage treatment works. John Taylor and Sons, Artillery House, Artillery-row, Westminster, S.W.1. Dep. £5.

Exmouth U.D.C.—Sinking of borehole at Dolton pumping station. G. H. Hill and Sons (Manchester), 51, Mosley-st., Manchester 2. Dep. £5 5s.

Feltham U.D.C.—Making-up of 200 yds. of street. B.E. and S. Dep., £2 2s.

OCTOBER 1.

Lambeth B.C.—Supply and laying rolled asphalt paving, various streets. Borough E.

West Bridgford U.D.C.—Roads and sewers at Edwalton. E. and S. Dep. £2 2s.

OCTOBER 3.

Caine and Chippenham R.D.C.—Roads and sewers at Corsham. Walter Rudman and Edwards, 32, Market-pl., Chippenham. Dep. £3 3s.

OCTOBER 4.

Farnham U.D.C.—Roads, sewers and footpaths at Thurbens estate, Shortheath. E. and S. Dep. £2 2s.

OCTOBER 6.

***Wayland R.D.C.**—Site works at 5 sites. H. Marsh (L.), 14, King-st., King's Lynn. Dep. £2 2s.

OCTOBER 27.

Cirencester U.D.C.—Construction and maintenance of approx. 2¾ miles of 27-in. dia. concrete pipe trunk sewer, etc. Lemon and Blizard, Lansdowne House, Castle-la., Southampton. Dep. £5 5s.

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the advertisement pages of this and previous issues.

GENERAL BUILDING WORK

(LONDON)

Balham.—GARAGE.—J. Holdron, Ltd., drapers, 110, Balham High-rd., S.W.12, propose large van garage, Balham-grove. Architects are Wallace Chapple & Partners, 12-13, Grafton-st., W.1.

Bermondsey. — REBUILDING. — Of factory, Keetons-rd., proposed by Peek, Frean & Co., Ltd. Architects are Arthur W. Cooksey & Partners, 11, Garrick-st., W.C.2.

Croydon.—SCHOOLS.—E.C. to erect secondary school for boys and one for girls, Ashburton Estate. Architect is Graham Crump (F.), 43, George-st., Croydon.

Dalston.—FLATS.—Plans by Norman & Dawbarn, 5, Gower-st., W.C.1, for 104 flats, Greenwood-rd., E.8.

Finsbury-sq. — REINSTATEMENT. — At Essex House, E.C.2, estimated at £40,000. County Architect is H. Connolly (F.), Shire Hall, Chelmsford.

Holborn.—REBUILDING.—Of City Temple on site off Plumtree-ct., E.C. Architect is Frederic Lawrence (F.), 93, Southbourne-rd., Bournemouth.

Holborn. — REBUILDING. — Of St. Albans Church and schools, E.C.1, at £80,000. The architect is Sir Giles Gilbert Scott, R.A., 3, Field-ct., Gray's Inn, W.C.1.

Park-la. — EXTENSION. — Alliance Building Society, Brighton, have acquired premises at corner of Park-la. and Curzon-st., W.1, for extension of London offices. Architect is Derek Bridgewater (F.), 42, Bruton-st., W.1.

Poplar.—GENERATING STATION.—At Brunswick Wharf, for B.C. Architects are Farmer & Dark (FF.), 52, Grosvenor-gdns., S.W.1. Consulting engineers, L. G. Mouchel & Partners, 38, Victoria-st., S.W.1.

Putney.—FLATS.—Plans by Sir John Brown, A. E. Henson & Partners, 117, Sloane-st., S.W.1, for flats in Skeena-hill, S.W.

Southwark.—REBUILDING.—Of warehouses, etc., for Butler's Wharf, Ltd., Tower Bridge, S.E.1. Plans by Thompson, Walford & Fielder, Leadenhall Buildings, Leadenhall-st., E.C.3.

(PROVINCIAL)

Bath.—Governors of Prior Park College propose to rebuild east wing at £20,000. Plans by Mowbray, Green & Hollier, 27, Queen-sq., Bath.

Bellingham (Northumberland).—R.D.C. planning 100 houses for North Tyne families.

Birkenhead.—E.C. propose Primary school at Holm-la.

Birmingham.—Senate of Birmingham University considering plans for large extension to buildings. Post-war programme of £4,000,000 contemplated. Plans by Peacock & Bewley, 83, Colmore-row, Birmingham.

Blackburn.—T.C. propose Floral Hall at Corporation Park.

Boldon.—Sites reserved for Junior and Infants' schools south of River Don for Durham County E.C.

Bolton.—E.C. propose Secondary school at Ashworth-la.

Bournemouth.—J. O. Fairbrother to reconstruct as 7 shops and showrooms premises at Christchurch-rd. Plans by Fox & Sons, Hinton-chbrs., Hinton-rd., Bournemouth.

Braintree.—Braintree Co-operative Society, Ltd., Bocking End, Braintree, to build model bakery. Plans by Architect's Department, Co-operative Wholesale Society, Ltd., 99, Leman-st., E.1.

Brierley Hill.—The Round Oak Steel Works, Ltd., propose modernisation of works at £3,000,000.

Bromley.—L.P.T.B. to rebuild large garage and depot at Elmers End. Plans by Wallis, Gilbert & Partners, 5, Cromwell-rd., South Kensington, S.W.

Broughton-in-Furness.—Lancs E.C. propose special residential school for delicate children.

Bury.—E.C. propose special treatment school at £24,000.

Cannock.—Henry Hawkins, Ltd., Longhouse Tileries, Bridgtown, propose clay workings at Cheslyn Hay.

Carrington (Ches.). — Petrocarbon, Ltd., Eccles, propose large works for chemical by-products and oil refinery.

Chester.—T.C. to develop 9 acres of land for houses at Hoole-la.

Chigwell (Essex).—Plans approved by local authorities for erection of Prince of Wales public-house in prefabricated construction at Manor-rd. for Charrington & Co., Ltd., Anchor Brewery, Mile End-rd., E.1.

Coventry.—Markets and Baths Committee approved plans for rebuilding of second swimming baths at Livingstone-rd. baths at £30,000.

Coventry.—T.C. propose: Primary school at Sadler-rd.

Dover.—Plans prepared by W. Beeston & Sons, 2, Castle Hill-rd., Dover, for rebuilding of Grand Hotel at about £40,000.

Eccles.—Joseph Holt, Ltd., Derby Brewery, Manchester, propose rebuilding Bull's Head hotel, Church-st. Plans by N. Hartley Hacking, 5, Blackfriars-st., Manchester 3.

Hull.—T.C. approved:—Reinstatement of premises at York-st. for Barnes & Porter, Ltd.; extensions to premises at Neptune-st. for T. J. Smith & Nephew, Ltd.; rebuilding premises at Myton-st. for F. & T. Ross, Ltd.; J. L. Seaton & Co., Ltd., propose rebuilding works.

Isle of Wight.—Warner's Holiday Camps, Ltd., St. Mary's-rd., Hayling Island, Hants, acquired site for holiday camp. Plans by L. H. Fewster & Partners, 22, Conduit-st., W.1.

Lancaster.—South Lonsdale Licensing Justices approved structural alterations at Stork hotel, Conder Green, for R. C. Knowles.

Lichfield.—T.C. propose 92 houses at Cherry Orchard estate.

Liverpool.—E.C. propose: County College at Childwall Hall; City Technical College at City Centre.

Macclesfield.—T.C. propose victory memorial hall and theatre. Plans by E. A. Heppenstall (A.), Boro. A.

Manchester. — T.C. approved: — Factory at Stockport-rd., Longsight, for A. Taylor, 44, Cringle-rd., Levenshulme; clothing factory at Stretford-rd., Hulme, for D. P. Litton & Co., Ltd., 77, Russell-st., Hulme; office and warehouse at Colliery-st., Openshaw, for D. Thomasson, Ltd., Colliery-st.; showrooms, store and repair shop at Oxford-rd. for E. O. Walker & Co., Ltd.; boot factory at Portugal-st., New Cross, for E. Leon, 160, Oldham-rd.—R.C. authorities of St. Joseph's R.C. Schools, Longsight, propose rebuilding after war damage. Plans by Reynolds & Scott (F.), 9, Albert-sq.

Morecambe and Heysham.—T.C. propose motor coach station and car park off West End-rd.

Newcastle-on-Tyne.—W. B. Reid & Co., Ltd., to erect sugar store at Claremont-rd. to plans by Hetherington & Wilson, County-chbrs., 52, Westgate-rd., Newcastle.

Newport (Mon.).—Large factory to be built for Wales and Monmouthshire Industrial Estates Ltd., Treforest, Pontypridd, for occupation by E. J. King & Sons (Newport), Ltd., woodworkers, Marlborough-rd., Newport. Plans by Percy Thomas & Son, 10, Cathedral-rd., Cardiff.

Nottingham.—C.C. proceeding with completion of County Hall at £70,000. Architect is E. Vincent Harris, R.A., 19, West Eaton-pl., S.W.1.

Peterborough.—T.C. propose 500 aluminium bungalows at Fengate.

Poole.—Employees of British Drug Stores, Ltd., Graham-st., N.1, formed housing association for building about 40 houses. Plans by Ansell & Bailey, 5, Verulam-bldgs., Gray's Inn, W.C.1.

Prescot.—Lancashire E.C. propose Junior school.

Rawtenstall.—T.C. propose 90 houses at Carr-la. site.

Reading.—Warwick Bros., Ltd., 47, Oxford-rd., Reading, propose to erect large premises at Basingstoke-rd. Plans by Sainsbury & Chamberlain, 14, Cross-st., Reading.

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Sheffield.—T. B. & W. Cockayne, Ltd., Angel-st., propose showrooms, shops and stores at Allen-st. and Watson's-walk.

South Shields.—J. Readhead & Sons to erect pattern shop. Plans by L. J. Couves & Partners, Carliol House, Newcastle.

Stockport.—E.C. propose Secondary school for girls at Heaton Moor.

Swansea.—Extensions of buildings proposed by Swansea General and Eye Hospital. Plans by E. R. Brown & Partners, 11, Calvert-ter., Swansea.

Tyldesley.—Lancs E.C. propose Primary school at Shakerley.

Whitworth.—Lancs E.C. propose kitchen and dining-room.

Worthing.—Worthing Estates Building Co., Ltd., 72, Broadwater-rd., Worthing, propose block of 29 flats at Pavilion-rd. Plans by H. C. Wolledge, 13, Ambrose-pl., Worthing.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government departments*.

Aireborough.—Work in all trades for 98 houses at Yeadon Haw site. F. Tunnell, B.Sc., A.M.Inst. C.E., E. & S.: *West Riding Builders, 37, Beeston-rd., Leeds (Masons); *Mitchell Yeadon, Westfield, Yeadon (Masons); *W. J. Kendall & Co., South Parade, Pudsey (Joiner); *J. Atkinson & Son, Whitehall-rd., Leeds (Tiler); *C. D. Cowan & Son, 55a, East Parade, Harrogate (Plumbers); *Andrew Firth & Son, Henshaw, Yeadon (Plasterers); *L. Routh & Son, Springfield-ter., Yeadon (Plasterers); *Contractors (Pudsey), Bennetts-yd., Lidget-hill, Pudsey (Electrician); *Tom Raine, 1, 16, Hawthorn-dr., Yeadon (Painter); C. H. Robinson & Son, London-la., Rawdon (Painter).

Alnwick.—10 houses at Felton, for R.D.C.: *Burn Bros., Felton, Alnwick (subject to M.H. approval).

Ashby-de-la-Zouch.—15 houses at Ashby housing estate, for U.D.C. G. E. Marlow, S.: *W. Simkin & Son, Swadlincote-rd., Woodville, Burton-on-Trent.

Ashton-under-Lyne. — Rebuilding Alexandra Billiards Hall and Pavilion Cinema at Old-st., for Pavilion (Ashton-under-Lyne), Ltd., Clarence-chbrs. Drury & Gomersall (L.), architects, Imperial-bldgs., Oxford-rd., Chorlton-upon-Medlock, Manchester 1: *T. Campion & Son, Ltd., Devonshire-st., Ardwick 12; steel-work: *H. Smith (Constructional Engineer), Ltd., 3, Ford-la., Pendleton, Salford 6.

Atherton.—26 houses at Devonshire-rd. and Oxford-rd. sites, for U.D.C. F. L. Boydells. Six houses each: *S. Hayman, 357, Holden-rd., Leigh; *G. Hodgkinson and *J. Smith, 58, High-st., Atherton; four houses each: *A. Yates and *J. Barrow.

Bakewell.—Alterations, etc., at Haddon House for conversion into flats, for U.D.C. T. W. Baker, S.: *Furniss & Hassall, Station-rd., Great Longstone, Bakewell.

Belper.—Houses for R.D.C. Eight Airey at South Wingfield: *Collis & Dorsett, Ltd., 121, Upper Dale-rd., Derby, £10,600. Two traditional houses at South Wingfield. J. Laycock, Chief Building S.: *Messrs. Pidcock & Beastall, Mansfield-rd., Alfreton, Derbys, £2,448.

Bideford.—Houses for R.D.C. Four at Clovelly: *F. W. Hockin, £5,295; two at Bulkworthy: *A. Richards & Son, Colyton.

Bolton.—Canteen and welfare club at works, Mather-st., for Hollas, Ltd. Bradshaw Gass & Hope (FF.), architects, 19, Silverwell-st.: *S. Talbot & Son, Harris-st., Bolton.

Chelsea.—Restoration of public library at Manresa-rd., for B.C.: *White & Johnson, Ltd., 29, Fernshaw-rd., Chelsea, £6,127.

Cheshire.—Reinstatement and completion of work at Helsby County school, for C.C.: *Tyson's, Ltd., Dryden-st., Liverpool, £81,687.

Chester-le-Street.—Additional accommodation at miners' hostel: *F. W. Mole & Son, Chester-le-Street.

Chipping Norton.—16 houses at Enstone, for R.D.C.: *B. Blake, Charlbury, Oxon, £22,923 (subject to M.H. approval).

Crawley, Sussex.—Restoration and additions to post office: *Hoad & Taylor, Market-sq., Horsham.

Denton.—16 houses at St. Lawrence-rd. site, for U.D.C. E. & S.: *Egerton Construction Co., Ltd., 17, Nield-rd., Denton.

Doncaster.—Large factory, offices, etc., at Wheatley, for Crompton, Parkinson, Ltd., Chelmsford. Plans by Adie, Button & Partners, 29, Weymouth-st., W.1: *Harold Arnold & Son, Ltd., Printing Office-st., Doncaster.

Dudley.—16 houses at Holly Hall site, for T.C. F. H. Gibbons, B.E.: *S. Parkes, 153, Powke-la., Blackheath, Birmingham, £17,819.

Dukinfield.—Canteen for Daniel Adamson & Co., Ltd.: *Jas Berry, Ltd., Chapel-st., Heywood.

Durham.—Factory at Shildon, for Michkelis & Goldstein, Bishop Auckland. Architects: J. Walter Hanson & Son, Northumberland-st., Newcastle: *G. Dougill & Son, Chestnut-st., Darlington.

Durham.—Extensions to miners' hostel at Ferryhill: *W. Wilson, The Forge, Spennymoor, Durham.

East Middlesbrough.—Factory for Forster, Clay & Ward, Leicester. Architect: G. P. Stamsby, High-st., Stockton-on-Tees: *F. Shepherd & Son, Blue Bridge-la., York.

Esher.—Rebuilding 2 houses at Lower Green-rd. Architect, J. E. G. Green (F.), 262, Malden-rd., New Malden: *Baileys Builders & Contractors, Ltd., Burlington-rd., New Malden, Surrey.

Felixstowe.—Reinstatement of Spa Pavilion, for U.D.C.: *Rogers Bros., Ltd., Station-rd., Felixstowe, £20,182.

Great Yarmouth.—14 houses at Magdalen College estate, for T.C.: *J. Cooper, £1,256 per house.

Hay.—24 houses at Talgarth, for R.D.C.: *T. Howells, Caerphilly, £32,153.

Hebden Royd.—50 "Newland" type houses, for U.D.C.: *Tarran Industries, Ltd., Cloughrd., Hull, £61,400.

Hornsey.—Eight houses at Osborne-rd., scheme No. 22, for T.C. Riches & Blythin, in association with the B.E. & S.: *F. W. Padwick, 141, Ballards-la., Finchley, N.3.

Huddersfield.—County Primary school at Deighton, for E.C. G. Crossley (F.), Boro' Ed. Architect, Peel-st. Builder: Graham L. Jessop (1935), Ltd., Moorfield Quarries; joiner: G. Ainley & Son, Pinfold Joinery Works, Milnbridge; plasterer and tiler: G. H. Day & Sons, 19, Station-rd., Milnbridge; plumber and glazier: J. H. Shouksmith & Sons, 132, Micklegate, York; painter and decorator: W. Tunnicliffe & Co., 178, Bradley-rd., Bradley; asphalter: Northern Asphalt and Roofing Works, Ltd., 153, Cardigan-rd., Headingley, Leeds 6 (rest of Huddersfield).

Jarrow.—Nursery factory (three or four in one) at trading estate. Plans by Cackett, Burns Dick & McKellar, 21, Ellison-pl., Newcastle: *Cussins (Contractors), Ltd., Moor Court, Newcastle.

Keighley.—Extensions at Victory Works, Dalton-la., for C. A. Rix, Ltd. J. B. Bailey & Son, architect, Airedale-bldgs., North-st.: *J. Ratlidge, 60, Highfield-la., Keighley.

Leek.—Pithead Baths, Colliery, Hem Heath, for Miners' Welfare Commission. C. G. Kemp (F.), architect, 5, Old Queen-st., Westminster, London, S.W.1: *Cooper Bros. & John Clayton, Ltd., Catherine-st., Macclesfield, £47,540.

¶London (Admiralty).—*Thames*, Dumping hardcore, Thames Estuary, E. Covington & Sons, Ltd., 27, Lots-rd., Chelsea, S.W.10.

¶London (Air Ministry).—Contracts to value of £500 or over for week ended September 6:—

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¶London (M.O.W.).—Contracts placed by M.O.W. for week ended September 4:—

London: Houses of Parliament, installing electric passenger lifts, South-West Tower, Evans Lifts, Ltd., Abbey-la., Leicester; Museum of Practical Geology, S.W.7, new offices and laboratories, Thomas & Edge, 25, Queen's-rd., Woolwich, S.E.; Eastern District G.P.O., Whitechapel, painting and cleaning work, Geo. Jones & Son, 27b, Kensington Church-rd., W.8. *Banffshire*: Banff Academy, kitchen and dining-rooms, A. Davidson, 32, Duncan-rd., Banff. *Beds*: Ministry of Food, 37, Upper George-st., Luton, two standard huts, Building Contractors, Ltd., Church-st., Luton. *Berks*: Grovelands School, Reading, kitchen and dining-rooms, H. R. Davey, Wokingham-rd., Earley, Reading; A.E.R.E., Harwell, installation of emergency lighting batteries, Nife Batteries, Ltd., Redditch, Worcs. *Ches.*: Cheadle Heath C. School, Stockport, kitchen and dining-room, P. Hamer, Ltd., Park-st., Swinton, Manchester; Ministry of National Insurance, Black-rd., Macclesfield, office buildings, Cooper Bros. & John Clayton, Ltd., Catherine-st., Macclesfield; Ministry of National Insurance, Delamere-rd., Crewe, standard office, John Gresty & Sons, Willaston, nr. Nantwich. *Devon*: Senior C. School, Chagford, temporary school buildings, M. T. Sleeman & Sons, Lingbrook-ter., Exeter; St. Sidwells C. of E. School, Exeter, kitchen and dining-rooms, E. C. Lea & Sons, 86, Okehampton-rd., Exeter. *Durham*: St. Aiden's Memorial School, West Hartlepool, additional classrooms, Geo. Porteous, 34, West Sunniside, Sunderland. *Fifeshire*: Cowdenbeath, Arcon houses, John Best, Ltd., Warriston House, Edinburgh; Dunfermline, Arcon houses, John Best, Ltd., Warriston House, Edinburgh; Cardenden, Arcon houses, Scottish Tarmacadam Asphalte Co., 44-52, Bilbao-st., Glasgow; Blairhall Primary School, Dunfermline, temporary school classrooms, Scottish Tarmacadam Asphalte Co., 44-52, Bilbao-st., Glasgow; Moss-side Public School, Cowdenbeath, temporary school classrooms, Scottish Tarmacadam Asphalte Co., 44-52, Bilbao-st., Glasgow. *Lanarkshire*: Health Hospital, Law Junction, installation of heating to brick ward, Block C, Taylor & Frazer, 31, Argyle-st., Glasgow, C.2. *Lancs*: All Saints, Oxford-rd., Manchester, sub-post office, P. Hamer, Ltd., Park-st., Swinton; St. Aiden's C. of E. School, Blackburn, kitchen and dining-room, J. & H. Bullough, Ltd., Gordon-st., Chorley, Manchester; St. Clare's R.C. School, Wavertree, kitchen and dining-room, Norwest Construction Co., Litherland, Liverpool 21; Failworth's Girls' Modern School, Manchester, hutted accommodation, E. E. Coleman, Ltd., Waverley-rd., Sale, Manchester; Grammar School, Ashton-under-Lyne, kitchen and dining-room, P. Hamer, Ltd., Park-st., Swinton.

Middx.: Northwood Hills, T.O.B., instal heating and hot water system, William Freer, Ltd., 49, Red Lion-st., W.C.1. *Midlothian*: Fountainbridge, Edinburgh, steelwork at telephone exchange, Redpath Brown & Co., St. Andrews Steel Works, Edinburgh. *Notts*: Police Wireless Station, Stanton-on-the-Wolds, staff living quarters, A. N. Taylor, Ltd., 151, Attenborough-la., Attenborough, Notts. *Renfrewshire*: Lochwinnoch, Tarran houses, Modern Homes, Ltd., 4, Melville-cres., Edinburgh. *Somerset*: Clutton R.D.C.1, temporary houses, W. J. Walker & Son, Station-rd., Fishponds, Bristol. *Staffs*: Harvills, Hawthorne Estate, West Bromwich, Smith houses, British Steel Constructors, Ltd., Smith-st., Wednesbury; Walsall C.B. (Con. 7), aluminium houses, Geo. Linnecor & Son, 154, Newtown-row, Birmingham 6. *Stirling*: Grangemouth High School, dining-room and scullery, W. Sprunt & Co., Inverallan-rd., Bridge of Allan, Stirling. *Surrey*: Westminster Bank Sports Ground, Norbury, removal of defence works, Fred Wise, Ltd., 113, Dalton-la., E.8. *Sussex*: Girls' Modern School, Tower-rd., Hastings, temporary school buildings, A. E. Goodsell & Son, 51, Worth-ter., Halton, Hastings. *West Lothian*: Bathgate Public School, temporary school classrooms, W. Roberts & Son, Mid-st., Bathgate, West Lothian. *Yorks*: Lofthouse-Gate School, Stanley, nr. Wakefield, kitchen and dining-room, Wilson (Whitkirk), Ltd., 375, Selby-rd., Whitkirk, Leeds; Brandesburton County P. School, Cross Hill, W. Hornsea, kitchen and dining-room, A. J. Darnley & Son, 68, Spring-st., Hull; Highgate School, Nicholas-la., Bolton-on-Dearne, kitchen and dining-room, W. Barber, 52, Northgate, Pontefract; Outwood School, Outwood-in-Stanley, kitchen and dining-room, W. Barber, 52, Northgate, Pontefract.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended August 30:—

Roxburgh: Roadwork, H. V. Smith & Co., Ltd., Edinburgh. *Staffs*: Roadwork, Bitu-

minous Surfacing, Ltd., Manchester. *Leics.*: Building work, G. Duxbury & Sons, Ltd., Leicester.

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Newcastle-on-Tyne.—Conversion of "Limecroft," Western-av., into nursing hostel, for City Council: *John Craven & Son, 277, Two Ball Lonnen, Newcastle-on-Tyne.

Norman Cross.—(a) 10 pairs of Airey houses with outbuildings, fencing, gates, drainage and services, etc.; (b) laying access roadway, for R.D.C. Ruddle & Wilkinson, Long Causeway-chbrs., Peterborough: *Jellings (Builders), Ltd., Walpole-st., Westwood Bridge, Peterborough: Houses, £28,519; road and sewers, £4,344 (accepted after adjustments by M.H.).

Norwich.—Houses for T.C. 12 flats: *Evans & Sons, Old Catton, Norwich, £11,956; two houses: *R. C. Whitmore, 203, Dereham-rd., Norwich, £2,681; four houses: *Burrell Bros., 82, Bowthorpe-rd., Norwich £4,932; four houses: *H. Goodson, £4,934; six houses: *H. Barnes & Sons, Norwich, £8,043; four houses: *A. Agar, Magdalen-rd., Norwich, £5,369.

Oldham.—Additions at Borough Mill, Neild-st., for Borough Spinning Co., Ltd. Ernest England (A.), 12, Clegg-st.: *J. & J. Blunn, Ashton-rd., Oldham.

Radcliffe.—12 houses at Bolton-rd. site, for T.C. G. E. Wrigley, B.S.: *P. Fairclough, Clive-st. Saw Mills, Bolton.

Rochdale.—13 blocks of three-storey flats (156 dwellings). S. H. Morgan, M.Inst.C.E., B.S. and Architect: *The Unit Construction Co., Ltd., Bentham-dr., Broadgreen, Liverpool 16.

Sheffield.—16 houses at Parson Cross estate, for T.C. W. George Davies, City A.: *W. J. Tall, 51, Norton Lees-rd., Woodseats 8, £9,684 (8); *J. Hall & Co., 59, Churchdale-rd., £9,593 (8).

Sheffield.—56 houses at Parson Cross estate extensions, for City Council: *W. T. Tall, 51, Norton Lees-la. (8), £9,684; *H. Dernie & Sons, 69, Stoven-rd. (12), £14,326; *D. Hurrell & Sons, 1, Holyooke-av. (12), £13,790; *Bailey & Martyn, Ltd., 25, Fargate (16), £20,026; *J. Hall & Co., 59, Churchdale-rd. (8), £9,593 (all of Sheffield). (Subject to M.H. approval.)

Shoreham.—80 houses at Stoney-la. estate, for U.D.C.: *Building and Public Works Construction Co., Ltd., Swindon, £55,765 (44); *Ringmer Building Works, Ltd., £18,240 (14); *Grovers (Lancing), Ltd., £26,781 (22).

Spenborough.—Six houses at Ghyllroyd-av., Birkenshaw, for U.D.C.: *W. N. Welsh, 5, Royds-av., Birkenshaw, £7,012.

Stockport.—16 flats for aged people at Bridge Hall estate, for T.C. W. F. Gardner, B.S.: *Taylor-Hulme, Ltd., Woodlands Farm, Offerton, Stockport, £10,685.

Stockport.—Alterations and additions to works at Millgate and The Folley, Churchgate, for Harvey Briggs (Refrigeration), Ltd. Major R. Bull, architect, High-st., Cheadle, Cheshire: *William Barrell & Sons, Ltd., Baxter House, Halstead-gr., Gatley, Ches.

Uttoxeter.—14 houses at Church Leigh and Abbotts Bromley sites, for R.D.C. C. E. Ingham, S.: *O'Dair Bros., Ltd., Tean-rd., Uttoxeter, £17,788.

Welling (Kent).—Restoration of St. John's Church, for Restoration Committee. Architect: T. W. F. Grant (F.): *H. Friday & Sons, North End Works, Erith (estimated cost, £6,000).

Whitley Bay.—Factory for making farm implements, nr. Fox Hunters' Inn. Architect: G. R. Holmes, 1, Priory-ter., Tynemouth: *R. Alder Gofton & Sons, Front-st., Monkseaton.

Wigan.—155 houses at Norley Hall site, for T.C. D. M. McKellen, B.E.: *Direct Labour Dept., £186,221.

Wylam-on-Tyne. — Camp for European workers: *G. Browell, Ltd., Edward-st., Blaydon-on-Tyne.

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